

Learning Cycle Year 1	Knowledge and Skills	Vocabulary, Reading and Numeracy	Checking of understanding	Rationale
Autumn Term	<ul style="list-style-type: none"> <li>• <b>Core Practical skills</b> - Develop key workshop modelling skills including Styrofoam, matt board and use of the laser and 3D printer.</li> <li>• <b>CAD skills</b> - A six-week introductory course into Solid works CAD software. Three-week introduction to Techsoft 2D design.</li> <li>• <b>Core Theory</b> - To cover production scales and manufacturing methods, main material types and processes, legislation, environmental impact.</li> <li>• <b>Maths for Design / Exam</b> - Maths skills to cover Areas, Volume and Percentages. Exam skills – process question approach, introduction to extended answers. <i>Test 1 is a basic introduction to simple A Level questions. Test 2 expands on this with the introduction of extended answers.</i></li> <li>• <b>DMP1 (Design and Make Project 1) - X-Acto Redesign</b> - Design project to develop and establish key NEA skills – Layout, basic research, sketching, CAD and Peer assessment</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Vocab and reading</b> – Student to complete Key Reading task 1 -10 (refer to subject handbook reading tracker)</li> <li>• <b>Recall activity</b></li> <li>• Glossary of terms presented in Handbook</li> <li>• <b>Numeracy</b> – Students to cover areas and volumes, percentages, anthropometric data</li> </ul>	<ul style="list-style-type: none"> <li>• Weekly Homework's</li> <li>• Key reading</li> <li>• Test 1</li> <li>• Test 2</li> <li>• Folder checks</li> <li>• DMP Feedback</li> </ul>	<ul style="list-style-type: none"> <li>• Students develop a range of modelling skills recognised by industry to enable communication of ideas within their NEA.</li> <li>• Modelling skills include CAD as this is a requirement of the NEA and is a lens into modern approaches used in industry and higher education.</li> <li>• Theory covered will enable design discussions to evolve and provide initial platform for testing and NEA development.</li> <li>• Basic maths skills revisited</li> <li>• DMP project used as an initial introduction to project development.</li> </ul>

Spring Term	<ul style="list-style-type: none"> <li>• <b>Core Theory / Design concepts</b> - Further learning building on the foundation of term one including – Quality control, further material processes / construction, anthropometrics, standard components, material characteristics and testing, Trend and market analysis, 4P's, Design influences, Product lifecycle.</li> <li>• <b>DMP2 (Design and Make Project 2) - Oasis Brief</b> - Design project designed to build upon DMP1 and develop key NEA design skills including – identifying client / market need, data analysis, modelling skills both practically and the use of CAD.</li> <li>• <b>Maths for Design / Exam</b> - Maths to cover Costings, Pythagoras, Basic Trigonometry. <i>Test 3 moves closer to a full Paper 1</i></li> <li>• <b>NEA (Non-Examined Assessment)</b> - Student given time to identify and establish a direction for their NEA. Carryout feasibility studies and identify key stakeholders.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Vocab and reading</b> – Student to complete Key Reading task 11 -20 (refer to subject handbook reading tracker)</li> <li>• <b>Recall activity</b></li> <li>• <b>Numeracy</b> – Students to cover Pythagoras and trigonometry aspects</li> </ul>	<ul style="list-style-type: none"> <li>• Weekly Homework's</li> <li>• Key reading</li> <li>• Test 3</li> <li>• Folder checks</li> <li>• DMP Feedback</li> </ul>	<ul style="list-style-type: none"> <li>• Further design theory builds knowledge that will lead into the NEA and ability to test at a higher level.</li> <li>• DMP2 build on project-based skills initiated in DMP1 and will position students to be able to make a start on their NEA.</li> <li>• Maths work concentrates on the more difficult concepts required to complete the course.</li> <li>• NEA is started to ensure completion by required deadline.</li> </ul>
Summer Term	<ul style="list-style-type: none"> <li>• <b>Year 12 Mock</b> - <i>Test 4 is an opportunity for students to attempt a complete Paper 1.</i></li> <li>• <b>NEA (Non-Examined Assessment)</b> - NEA fully underway and students following the iterative design process. End of year milestone to have design ideas well underway. Activities will include – primary and secondary research, SWOT analysis, client / stakeholder analysis, identification of key requirements, initial ideation and ideas.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Vocab and reading</b> – Student to complete Key Reading task 21 -22 (refer to subject handbook reading tracker)</li> <li>• <b>Revision planners</b></li> </ul>	<ul style="list-style-type: none"> <li>• NEA Feedback</li> <li>• Test 4 (Mock)</li> </ul>	<ul style="list-style-type: none"> <li>• Test 4 is the students first experience of a full paper 1.</li> <li>• NEA – 100% focus on the NEA to ensure students are at the development stage by their return in September.</li> </ul>

Learning Cycle Year 2	Knowledge and Skills	Vocabulary, Reading and Numeracy	Checking of understanding	Rationale
Autumn Term	<ul style="list-style-type: none"> <li>• <b>NEA (Non-Examined Assessment)</b> - Students will be fully engaged in NEA activity. Key iterations will be focussed on completing the identification of key requirements and specification needs leading to development of designs. Planning and manufacture of the final prototype.</li> <li>• <b>Exam Preparation</b> - Revision tracker one will be introduced to the student approximately ten weeks before the January mock week. Additional revision homework activity will be introduced to aid retrieval of Yr12 maths activity.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Vocab and reading</b> – Student to complete Key Reading task 23 -29 (refer to subject handbook reading tracker)</li> </ul>	<ul style="list-style-type: none"> <li>• NEA Feedback</li> <li>• Key reading</li> <li>• Revision tasks</li> <li>• Revision tracker 1</li> </ul>	<ul style="list-style-type: none"> <li>• 100% NEA focus continues to ensure practical elements are underway by October / November time. This should then ensure completion by OCR deadline in May.</li> <li>• Student to focus on revision activity in independent study time leading towards mock exams season.</li> </ul>
Spring Term	<ul style="list-style-type: none"> <li>• <b>NEA (Non-Examined Assessment)</b> - Students to complete all NEA activity for final submission before the Easter break. Activity to include Final Feasibility and CAD presentation (including branding and packaging), production diary, working drawings and risk assessments and full product testing.</li> <li>• <b>Core Theory / Maths</b> - The single lesson will be used cover addition core theory and maths including probability and tolerances, cost effective distribution and</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Vocab and reading</b> – Student to complete Key Reading task 30 -35 (refer to subject handbook reading tracker)</li> <li>• <b>Recall activity</b></li> </ul>	<ul style="list-style-type: none"> <li>• NEA Feedback</li> <li>• Key reading</li> <li>• Revision tasks</li> <li>• Revision tracker 2</li> <li>• Mock Exam Test 5</li> <li>• NEA Final submission</li> </ul>	<ul style="list-style-type: none"> <li>• NEA focus in double lessons leading up to H/T. This is the start of transition towards examination preparation.</li> <li>• Single lesson used to cover core knowledge concepts with a focus on Paper 1.</li> </ul>

	<p>packaging, environmental directives, collaborative approaches.</p> <ul style="list-style-type: none"> <li>• <b>Exam Preparation</b> - Students to build on Paper 1 skills through tailored revision booklet. Paper 2 will be introduced to student for the first time and will carry out a week by week walk through and dissection of each question. This will lead to a Paper 2 mock</li> </ul>			<ul style="list-style-type: none"> <li>• Additional maths input to cover NEA aspects</li> <li>• In second H/T double lesson used as we start lead up to examination.</li> </ul>
Summer Term	<ul style="list-style-type: none"> <li>• <b>NEA – Final appeal submission</b> - Students will submit NEA work for the final time after appeal window closure.</li> <li>• <b>Exam preparation</b> - All activity will be focused on revision and preparation for Paper 1 and Paper 2 final examinations. All aspects to be covered based on assessment findings and tailored student feedback.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Revision activity</b></li> <li>• <b>Recall activity</b></li> </ul>	<ul style="list-style-type: none"> <li>• Mock Exam Test 6</li> <li>• Final examination</li> </ul>	<ul style="list-style-type: none"> <li>• Completion of NEA</li> <li>• Final exams</li> </ul>