

The Curriculum and Approaches to Learning		Key Programmes / Competitions
<p>In line with the requirements of the Design and Technology (D&T) Upper Sec 2019 Syllabus, the teaching of D&T at YSS focuses on educating students as persons through the development of cognitive skills and abilities unique in the field of design.</p> <p>D&T education aims to nurture in the students a way of thinking and doing, dispositions that are inherent in design practices:</p> <ul style="list-style-type: none"> - Embracing uncertainties and complexities - Be cognizant of and resolve real-world, ill-defined problems - Relentless drive to seek out how things work - Use of doodling and sketching, and 3D manipulation of resistant materials as a language for visualisation, communication and presentation 		<p>Enrichment</p> <ul style="list-style-type: none"> - Design with a purpose / Giving back to the community: Design Projects targeted at the needs of the community or specific groups - Micro-bit programming - Organic vegetable farming
Term	Learning Experiences (chapter, activity)	Learning Outcomes & Assessment
1	<p>Learning through experiencing (Integrated Learning & Design Thinking)</p> <ul style="list-style-type: none"> - Seeking Design Opportunities - Research & analysis skills (PIES, PMI, SWOT) - Designers' responsibilities, empathy - Concluding from research using 5W1H - Generating the design brief and design specifications 	<p>Learning Outcomes</p> <ul style="list-style-type: none"> - Research and analysis skills - Understanding society needs (empathy) - Resulting in presenting a thoughtful design need <p>Weighted Assessment 1</p> <ul style="list-style-type: none"> - Theory paper (an elective) - Skill-based project - Regular feedback via class work and assignments
2	<p>Idea Conceptualisation and Development</p> <ul style="list-style-type: none"> - Brainstorming, SCAMPER, Shape-borrowing, Design elements and principles (creativity skills) - Isometric, oblique, 2-point perspective drawings (using sketches and annotations to communicate thinking) - Form and Function, Material properties and selection, simple construction methods - Applications of Structures, Mechanisms and Electronics - Soldering activity - Use of mock-up(s) to test ideas - Decision making techniques - Anthropometry & Ergonomics 	<p>Learning Outcomes</p> <ul style="list-style-type: none"> - Idea generating, creativity and decision-making skills - Sketching skills - Understanding basic resistant materials - Understanding basic technological areas (structures, mechanisms and electronics) - Ergonomics and safety consciousness - Resulting in developing the design solution thoroughly and thoughtfully <p>Weighted Assessment 2</p> <ul style="list-style-type: none"> - Theory paper (an elective) - Skill-based project - Regular feedback via class work and assignments

3	<p>Production Planning / Making</p> <ul style="list-style-type: none"> - Applying basic working drawing skills - Applying making skills in any/all of the three resistant materials (wood, metal, plastic) <p>Throughout the coursework duration, students will plan and monitor their own progress through the use of a Gantt Chart, flow chart, sub-plans, and reflections.</p>	<p><u>Learning Outcomes</u></p> <ul style="list-style-type: none"> - Project planning and monitoring skills - Basic working drawing understanding (three views, assembly drawing, material list, isometric drawing) - Material handling skills - Resulting in producing a prototype that meets the defined intent <p><u>Weighted Assessment 3</u></p> <ul style="list-style-type: none"> - Theory paper (an elective) - Skill-based project - Regular feedback via class work and assignments
4	<p>Content Revision</p>	<p><u>Learning Outcome</u></p> <ul style="list-style-type: none"> - Students to be prepared for the full written exam (theory paper) <p><u>Semestral Assessment</u></p> <ul style="list-style-type: none"> - Paper 1 (theory paper) and Paper 2 (coursework)