Product Design—GCSE

Year 10		Year 11
Units	**Assessments**	**Assessments**
Acrylic Keyring: Explain the properties of plastics Explain the benefits and drawbacks of CAD/CAM **Pizza Wheel Prototype:** Explain the process of iterative design, have knowledge of ergonomics and anthropometric data Explain all factors linking to sustainability Explain the properties of smart materials Sketch and communicate ideas better Produce prototypes **Trinket Box:** Explain the in-depth properties of timbers Explain the need for surface finishes and the difference in wood joints **Mini NEA DITSO lamp:** Produce a Mini NEA developing design portfolio skills in researching & designing Produce models to communicate ideas and act on user feedback **Metal Sculpture:** Explain the properties of metals Understand electronics Explain the different scales of manufacture **Textiles- Stress Doughnut or Book Mark:** Explain the properties of textiles and papers and boards	Your understanding of the content (A series of knowledge checks at the end of each unit of work.) Independent Company / Designer research (Series of homeworks) The practical outcome from each unit of work **Mock Exam March** **2 hour exam** **100 marks**	**NEA Non Examined Assessment** **50% of the course** **100 marks** Core knowledge and understanding that learners are required to develop and apply is presented in ten clear topic areas: • Understanding design and technology practice • Understanding user needs • Writing a design brief and specifications investigating challenges • Developing ideas • Investigating the work of others • Using design strategies • Communicating ideas • Developing a prototype • Making decisions In-depth knowledge and understanding is presented in five clear topic areas: • Selecting and working with materials and components • Marking out • Using tools and equipment • Using specialist techniques • Using surface treatments and finishes Revision for exam **Final Exam 2 hours** **50% of the course** **100 marks** Core knowledge and understanding is presented in five clear and distinct topic areas: • Design and technology and our world • Smart materials • Electronic systems and programmable components • Mechanical components and devices • Materials In-depth knowledge and understanding is presented in six clear and distinct topic areas: At SVC we focus on: **Natural & Manufactured Timber** • Ferrous & non-ferrous metals • Thermoforming & thermosetting polymers • Fibres & textiles • Electronic systems • Programmable components • Mechanical devices • Papers & boards