|  | **Topic** | **Key concept – what do I want the students to learn from this unit?** | **What knowledge will they acquire?** |
| --- | --- | --- | --- |
| **YEAR 10 Engineering OVERVIEW** | | | |
| **10 - half term 1** | Engineering  R105 – Design process examination (25% of qualification) | Design briefs, specifications and user requirements (and wider influences impact design process) | * Design cycle * Needs and wants * Development of new products * Impact of wider influences on the design of new products |
| **10 – half term 2** | Engineering  R105 – Design process examination (25% of qualification) | Design briefs, specifications and user requirements (and wider influences impact design process) | * Design cycle * Needs and wants * Development of new products * Impact of wider influences on the design of new products |
| **FORMAL ASSESSMENT – external examination for R105** | | | |
| **10 – half term 3** | Engineering  R106 – Product analysis and research coursework (25% of qualification) | Evaluate existing products to see how they are made and why  What has influence the products design and manufacture  ***These concepts are taught holistically over a term and a half through a variety of activities*** | Commercial production methods impact of products (one off, batch, mass, automation, moulding, pressing, shaping, machining, finishing and assembly methods, end of product life considerations, conformity to regulations and standards)  Research existing products (primary and secondary research, strengths and weakness of existing products, summarise research)  Disassemble and analyse and existing product (procedures for disassembly, using tools and equipment safely, analyse components, materials, production and maintenance issues) |
| **10 – half term 4** |
| **10 – half term 5** |
| **10 – half term 6** | Engineering  R107 – Developing and presenting design ideas coursework (25% of qualification)  \*\* this work will be continued in year 11. | Develop techniques for generation development and communication of design ideas  ***These concepts are taught holistically over two and a half terms alongside teaching R108 (3D design realisation) as the skills complementary and deepen understanding*** | * Generate design proposals using a range of techniques |