

Progression to University, apprentices or employment

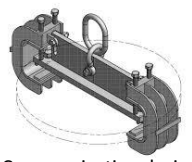
Key Stage 5 Learning Journey Engineering



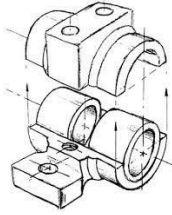
Statistics



Evaluation of designs.



Communicating designs. Freehand sketching, diagrams and CAD



Initial Ideas – Design Development



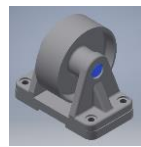
Specifications



Designing for clients needs



Market Research



Design and Develop a component



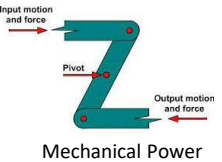
Manufacture component using 3D printing



Designing in Engineering



Material properties



Mechanical Power Transmission

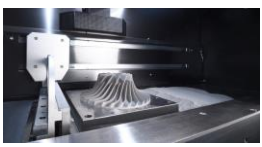


Manufacturing

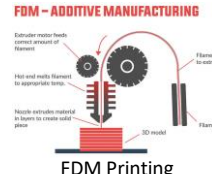
Identify resources and sequences required



3D Printing Materials



Powder Bed Fusion



FDM – ADDITIVE MANUFACTURING

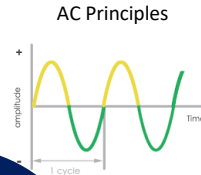
FDM Printing



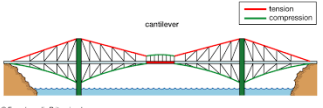
Applications of additive manufacturing processes

Year Y13

Unit 1 Engineering Principles
Unit 45 – Additive Manufacturing Process



AC Principles



Engineering Systems

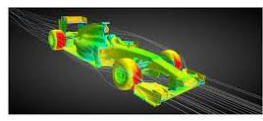


Forces

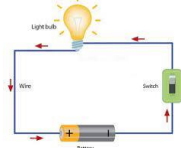
Mathematical techniques



Stress Strain



Dynamics

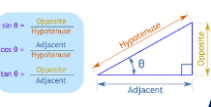
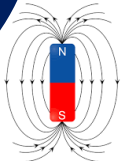


DC Electricity circuits



Fluid systems

Magnetism



Trigonometry

$$\frac{a^6}{a^3} = a^{6-3} = a^3$$

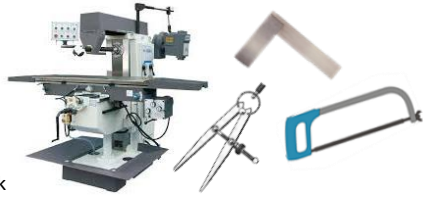
Algebra



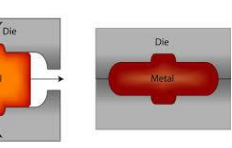
Controlled Assessment



Batch production & team work practical



Carrying out Engineering Processes



Common Engineering Processes



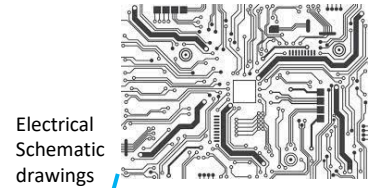
Plan Engineering Production

Unit 1 Engineering Principles
Unit 2 – Engineering Processes

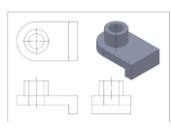
Year Y12



Practical - skills



Electrical Schematic drawings



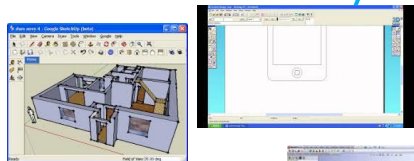
Orthographic Projection



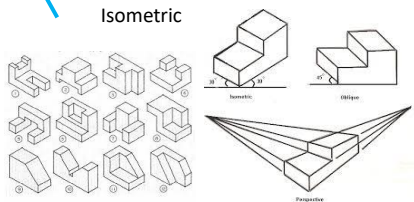
Practical - skills



Drawing skills



CAD/CAM – AUTOCAD LT / Inventor



Isometric

Controlled Assessment

