

Module/Unit of Learning	Taught During	What will students learn?	How does this develop expertise and challenge students?	Links to other Subjects
R038 – Principles of design engineering	Autumn Term	Students will learn about each strategy involved in the design process. Students will analyse the iterative design process and understand the benefits of design model making. Students learn the criteria of a design specification and how manufacturing methods affect design. Students learn engineering drawing styles along with methods of evaluating design ideas.	Students are supported to gain all of the knowledge required to be successful in their controlled assessments and the exam. Sketching and modelling is hard and they will learn to find solutions to problems themselves.	Business Studies Geography English
R040 – Design, evaluating and modelling	Spring Term	Students will learn the methods of modelling (including CAD and physical). Students will learn how to create a 3D model using CAD software and simulate the operation of the product using CAD. Students will learn how to select the most appropriate modelling method. Students will analyse the best materials and tools for model making. Students will learn how to effectively evaluate the prototype against the design specification	Students are supported to gain all of the knowledge required to be successful in their controlled assessments. They are challenged to utilise all of this knowledge to independently respond to the assignment briefs.	ICT Maths English
R040 – Design, evaluating and modelling	Summer Term	Students will learn how to present knowledge and skills to controlled assessments.	Students will be guided to use CAD software at an industry standard, becoming experts on using this key approach to engineering design.	