D&T *at Balcarras*

Subject	Year	Specialism
Design and Technology	Year 13	Product Design

Project

A Level NEA Project

Content (Intent)

Prior Learning: GCSE NEA and Y12 Mock NEA project

Now that students have a design specification they can begin to generate design ideas for their product. This section of the project focuses on high quality 3D sketching, CAD use and prototyping to communicate design concepts clearly. The AQA specification requires students to work in an iterative manner – constantly gathering feedback from their clients and refining their design proposal. We would expect to see students taking design risks and avoiding design fixation during this section of the project. Design development is also a key part of this assessment objective (**Development of design proposals AO2)** and we would expect to see the final concept evolve and change dramatically from the initial idea.

Future Learning – D&T theory for exam prep. Degree courses in Engineering and Design/Apprenticeships

How will knowledge and skills be taught (Implementation)

- **Reminder of skills taught in Y10 Design Skills project** – isometric drawing using the IsoSketch, line weights and use of marker pens to produce high quality design sheets.
- **CAD (SpaceClaim)** tutorials given to ensure 3D modelling forms a key part of the design process. CorelDraw also used to produce high quality prototypes.
- **Prototyping skills** – use of Styrofoam, card and other suitable materials to produce accurate prototypes.
- **Client feedback** – use of design work to gather meaningful feedback from clients – good examples shown to students
- **Design development** – responding to client feedback – detail drawings, CAD, refined prototyping (3D printing)

Many skills taught through lesson tutorials and use of exemplar project pages

How will your understanding be assessed & recorded (Impact)

Assessment:

Student work is marked at key intervals to ensure good progress. Verbal feedback as well as self/peer assessment is used during lessons. A more formal assessment is carried out at the end of this project section. Detailed written feedback and a 'working grade' is given so that students understand the level at which they are working and how to improve.

Main areas of assessment:

- **Development of design proposals** (AO2 – 25 marks). This includes design sketches, prototypes, client feedback and design development.

How can parents help at home?

Parents and carers can ask to view their child's work and offer feedback on their design ideas. Students will need client feedback throughout the project so it is great to get parents involved.

Helpful further reading/discussion (including Reading and Vocabulary Lists)

Reading
A Level AQA Revision Notes Text Book
Balcarras Product Design Pages
https://www.technologystudent.com/
We have many product design books available in the department so please encourage your child to come and have a look!

Vocabulary
CADCAM
Iterative design
Feedback
Prototyping
Concept
More key vocab can be found on the VLE

Careers Links
Product Design
Graphic Design
Furniture Design
Careers in Engineering (Design Engineering, Mechanical Engineering
Project Management
Art and Design careers