INFORMATION TECHNOLOGY: CAMBRIDGE NATIONALS

YEAR 10

What are the aims and intentions of this curriculum?

The main aims of the Cambridge National in IT are to encourage students to:

- Understand and apply the fundamental principles and concepts of IT, including the use of IT in the digital world, Internet of Everything, data manipulation and Augmented Reality ;
- Understand, apply and use IT appropriately and effectively for the purpose and audience;
- Develop learning and practical skills that can be applied to real-life contexts and work situations;
- Think creatively, innovatively, analytically, logically and critically;
- Develop independence and confidence in using skills that would be relevant to the IT sector and more widely;
- Plan, design, create, test and evaluate/review IT solutions and products which are fit for purpose and meeting user/client requirements and apply design and Human Computer Interface (HCI) considerations appropriate for a defined audience;
- Understand the impacts of digital technologies on the individual, organisations and wider society.

Term	Topics	Knowledge and key terms	Skills developed	Assessment
Autumn 1	Data manipulation using spreadsheets. Design tools and the human computer interface. How to create a spreadsheet solution to a given problem.	Students learn the different types of outputs that clearly present information for an organisation such as in charts and lists. They learn the meaning and function of the human computer interface and its common characteristics. Students learn how to handle and manipulate data.	Students learn: • Different types of output. • An understanding of house style and its meaning. • How to produce effective navigation systems including presentation skills and content. • How to create an effective spreadsheet solution that is fit for purpose. • How to manipulate data using formulas and functions • How to validate and verify text in a spreadsheet. • Spreadsheet security. • Spreadsheet modelling.	Assessment Activity: Different design tools and their characteristics. Assessment Activity: What is a computer interface and different design considerations. Assessment Activity: Spreadsheet activity/activities testing data handling and manipulation techniques using spreadsheets.

Autumn 2	How to test a spreadsheet solution. How to evaluate a spreadsheet solution. How to create a spreadsheet solution.	Students learn how to use different techniques to generate different types of outputs such as charts and graphs. Students learn how to create effective user interfaces. Students learn how to test the user interface and the technical aspects of the spreadsheet solution and evaluate it effectively.	Students learn: • How to create outputs which are fit for audience and purpose including user interfaces. • How to create and follow effective test plans and accurately record their findings.	Assessment Activity: Spreadsheet activity/activities testing different types of output, user interface navigation tools and testing considerations and how to evaluate a spreadsheet product. R060: NEA Assessment. Data manipulation using spreadsheets.
Spring 1	Data manipulation using spreadsheets. Creating a spreadsheet solution.	R060: NEA Assessment. Data manipulation using spreadsheets (working on).	R060: NEA Assessment. Data manipulation using spreadsheets (working on).	R060: NEA Assessment. Data manipulation using spreadsheets.
Spring 2	Using Augmented Reality to present information.	The purpose and uses of Augmented Reality (AR). Types of Augmented Reality (AR) and user interaction. Devices used with Augmented Reality (AR).	Students learn: • The different sectors that use AR and how they use it. • The different types of devices AR can be usedon.	Assessment Activity: What is AR and its uses. Assessment Activity: Types of AR and the devices used with augmented reality.
Summer 1	Using Augmented Reality to present information. Designing an Augmented Reality (AR) model prototype. Creating an Augmented Reality (AR) model prototype. Testing and reviewing an Augmented reality product.	Planning and design considerations to be considered when designing and producing an AR product. Tools used to design the content and action flow for an AR product. Producing an Augmented Reality (AR) model prototype for standard design conventions. AR information output formats. How to carry out testing of an AR model prototype. Reviewing the process of creating the Augmented Reality (AR) model prototype.	Students learn: • The purpose and user requirements of an AR product including meeting the needs of the target audience. • How to identify the content and assets required to create an effective AR product. • How to use appropriate design tools to support the creation of an AR product. • Create an AR product based on produced design documentation. • How to effectively test an AR modelprototype.	Assessment Activity: Planning and design considerations for AR products. Assessment Activity: Design tools revision activity. Assessment Activity: How to test an AR model.
Summer 2	Using Augmented Reality to present information.	R070: NEA Assessment. Using Augmented Reality to present information (working on).		R070: NEA Assessment Coursework.