

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	Using Augmented Reality to present information.	R070: NEA Assessment. Using Augmented Reality to present information (working on).	R070: NEA Assessment. Using Augmented Reality to present information (working on).	R070: NEA Assessment Coursework.
Autumn 2	IT in the digital world. Design tools. The Human Computer Interface (HCI) and its use in in everyday life. Different design tools. The difference between data and information.	The different types of design tools that can be used when planning an IT project. The purpose, importance and use of HCI in application areas. Hardware and software considerations when designing an IT solution to a given problem. User interaction methods. The difference between information and data. The use of data types in different contexts. The difference between validation and verification. Data validation tools. Data verification tools. Data collection methods.	Students learn: <ul style="list-style-type: none"> • The components, advantages and disadvantages of different design tools • The purpose of the Human Computer Interface (HCI). • The advantages and disadvantages of hardware considerations for using an HCI. • The difference between data and information. • Different data types and their characteristics. • Be able to explain and differentiate between validation and verification. • Identify different data collection 	Assessment Activity: Design tools revision activity. Assessment Activity: What is the HCI and its importance. Assessment Activity: Hardware, software and user interaction methods. Assessment Activity: The difference between data and information. Different data types. Assessment Activity: The meanings and differences between data validation and data verification Assessment Activity: Different types of validation and verification tools.

		<p>The storage of collected data. The importance and purpose of testing in different contexts.</p>	<p>methods and explain their advantages and disadvantages.</p> <ul style="list-style-type: none"> • Identify different IT storage media and the advantages and disadvantages of each. • The purpose and importance of testing. 	<p>Assessment Activity: Methods of collecting data and the advantage and disadvantages of each type. Assessment Activity: Different storage methods and the advantages and disadvantages of each type. Assessment Activity: How to effectively test a product.</p>
<p>Spring 1</p>	<p>IT in the digital world. Cyber-security and legislation. Digital communications.</p>	<p>Different threats to IT systems. The impact of a cyber-security attack on individuals and/or organisations. Cyber-security attacks prevention measures. The legislation related to the use of IT systems. Types of communication. Software and communications. Different digital IT devices. Distribution channel and the different types. Distribution channel connectivity methods. Audience demographics.</p>	<p>Students learn:</p> <ul style="list-style-type: none"> • The different types of threats and be able to explain why the threats are used by attackers • How to mitigate against cyber-security threats and different prevention methods. • Identify the potential impact a cyber-security attack can on individuals and an organisation. • Different legislation that applies to cyber-security and its implications. • Digital communication methods and the advantages and disadvantages of each. • Digital devices and their uses. • Different connectivity methods and the advantages and disadvantages of each. <p>Consideration of audience and purpose when using digital devices.</p>	<p>Assessment Activity: Different threats to computer systems. Assessment Activity: What are the potential impacts of a cyber-security attack? Assessment Activity: How can you prevent cyber-security attacks? Assessment Activity: Legislation relating to the use of computer systems. Assessment Activity: Communication types and the advantages and disadvantages of each. Assessment Activity: The characteristics of different digital devices and different distribution channels. Assessment Activity: The advantages and disadvantages of different distribution channels. Distribution channel connectivity. Assessment Activity: Audience demographics.</p>
<p>Spring 2</p>	<p>IT in the digital world.</p>	<p>What is the Internet of everything, the four pillars,</p>	<p>Students learn:</p> <ul style="list-style-type: none"> • What is meant by the IoE and 	<p>Assessment Activity: What is the IoE and the four pillars?</p>

	Internet of Everything (IoE)	applications and application areas in everyday life.	<p>know how the World Wide Web (WWW) and the Internet are used in the use of the IoE.</p> <ul style="list-style-type: none"> • Know the four pillars that make up the IoE and understand the interaction between them. • Explain the advantages and disadvantages of the IoE 	Assessment Activity: IoE applications.
Summer 1	IT in the digital world.	R050: NEA Assessment. IT in the digital world (working on).	<ul style="list-style-type: none"> • R050: NEA Assessment. IT in the digital world (working on). 	R050: NEA Exam Preparation.
Summer 2	IT in the digital world.	R050: NEA Assessment. IT in the digital world (working on).	R050: NEA Assessment. IT in the digital world (working on).	R050: NEA Examination.

