Computing

	Autumn	Spring	Summer
Year 7	**Under the hood of a computer** • *Computer hardware* • *Working with binary* **Computational thinking** • *Algorithms* • *An introduction to modelling (spreadsheets)* **Drawing and manipulating shapes using graphical programming software** • *Writing programs to create artwork based on drawing and positioning shapes found in Celtic art (Scratch)*	**Programming an animation** • *Programming an animation using programming techniques, such as sequences, iteration, procedures, selection and variables (Scratch)* **How the Web works** • *Boolean search terms* • *Evaluating content on the Web* • *The positives and negatives of the Web* • *Safety and social networking, reporting online abuse*	**Web page creation** • *Design, code and publish a web page (HTML and JavaScript)* **An introduction to programming with Python** • *Artificial intelligence* • *Start, write, edit, run and save an interactive simple program*
Year 8	**Programming with Python** • *Skills builder from Year 7* • *Saving variables, data types , operators* • *Conditionals, Boolean, selection* • *Iteration, procedures, functions* • *Creating an interactive program/game*	**Connecting to the Internet** • *Computer networks, the Internet and the World Wide Web* • *Hardware and software components of computer systems* • *Communication and collaboration via networks* **Instruction set design** • *Design, write and debug programs to control or stimulate physical systems* • *Controlling a robot*	**Legislation and ethical issues** • *Health and Safety at Work Act* • *Copyright Act* • *Computer Misuse Act (viruses and data loss)* • *Copyright, Designs and Patents Act* • *The Digital Divide* • *Impact of ICT* **An introduction to Databases** • *Data types, fields, queries, Boolean operators, reoprts*
Year 9	**Animation techniques** • *History of animation* • *Animation techniques* • *Creating an animation using Adobe Flash* **Designing for HCI (Human Computer Interaction)** • *Marketing personas* • *Designing and implementing a handheld device (SketchUp)* • *Peer evaluation and iteration*	**Representing sounds** • *File size and bandwidth* • *Sampling and recording sound* • *Compression* **Representing images** • *Resolution, image quality, file types* • *Adobe Photoshop – Graphic design skills*	**Creating an App to solve a problem** • *An introduction to Apps* • *App development* • *Idea generation and screening* • *Product development and wireframes* • *Designing and App using App inventor*

KS4 Exam Board: Edexcel ICT			
Year 10	**Theory: "Living in a Digital World"** • *Mobile Phones, Hardware, The Internet* • *Internet Safety* • *The Digital Divide* **Coursework:** Activity 1 Controlled Coursework Task: Animal Shelter •	**Theory: "On the Move"** • *Satellite Navigation, GPS, Internet Based Services* **Skills Update:** Modelling and Spreadsheets **Coursework:** Activity 2 Controlled Coursework Task: Animal Shelter	**Theory: "Smart Working"** • *Health and Safety* • *Collaborative Working* • *Software* • *Data Loss and Backup* **Coursework:** Activity 3 Controlled Coursework Task: Animal Shelter
Year 11	**Theory: "Entertain Me"** • *Gaming* • *Connecting to the Internet* • *Networks* • *Online dangers and Downloads* **Coursework:** Activity 3 Controlled Coursework Task: Animal Shelter.	**Theory: "Shopping Experience"** • *E-commerce* • *Fraud* **Exam Preparation** – Edexcel Technology Update **Coursework:** Activity 4 Controlled Coursework Task: Animal Shelter	