ICT

Why studying ICT is important:

The importance of being able to confidently, appropriately and safely use digital technologies cannot be overemphasised. Being digitally literate is essential to being able to thrive in the 21st century. Our curriculum aims to increase our students' interest in, and their understanding of, a wide range of digital technologies and software applications. The digital sector is already very large but is expected to be a key area of growth, especially in the North-East of England. Studying ICT will not only provide skills that are useful in all jobs but will provide knowledge and skills that will be extremely useful in this sector. Students will have direct experience of using industry standard software in photo editing and web design as well as being able to project manage and present information in a professional way. ICT is everywhere and this subject enable students to be successful in all aspects of their digital lives.

Curriculum intent for ICT:

We want our students to understand and play an active role in the digital world that surrounds them, not to be passive consumers of an opaque and mysterious technology. A sound understanding of ICT concepts will help students see how to get the best from the systems they use, and how to solve problems when things go wrong. In a world full of technology, every school-leaver should have an understanding of ICT and be digitally literate.

ICT at Hermitage Academy is an immersive experience, exposing students to fundamentals such as Microsoft Office, which is an essential tool for most jobs in today's workforce. Creative computing such as image manipulation, website and computer game development, teaches young people how to express their creativity in an informed and responsible way and encourages them to reflect on what they produce and strive for excellence. Finally, computer science concepts such as how computers work and developing coding solutions, using multiple programming languages, to real-world problems, develop critical thinking and problem-solving skills that are essential in future life.

Throughout the key stages, students will encounter a range of software, completing project-based tasks, providing solutions to given scenarios. Students will also be encouraged to think about e-safety and cultural issues of ICT. These include the impact of technology on daily life, the "digital divide" and globalisation.

As well as following the curriculum, students will be encouraged to read for pleasure, experiencing a diverse range of literature as a platform for exploring new ideas, developing critical thinking skills and learning more about the world around them.

Students enjoy ICT because it is varied, fast-paced and fun. Every student is inspired to believe in their potential and to aim high. Careers within the digital sector are the fastest growing sector today, predictions estimate there will be twice as

many jobs than candidates to fill them in the coming years. We have devised our ICT curriculum with this in mind, students acquire a grounding towards knowledge, skills and understanding that a growing number of employers are demanding.

What students will study throughout Key Stage 3:

Each year in Key Stage 3 includes lessons covering aspects of safety.

Year 7 Units

Office Skills- This teaches the fundamentals of Microsoft Office applications, email, the internet and file management.

Introduction to Computer Systems- This unit provides an introduction to hardware, software, storage devices, networks and network security.

Graphic Design Students will learn about image manipulation in the media and use the skills they learn to create composite digital images.

Scratch Programming- Students will use this block-based programming language to start their coding journey and develop a game based around the classic game PONG.

Year 8 Units

Intermediate computer systems- This builds on the introduction to computer systems unit from year 7 and covers binary, sorting algorithms, network topologies, computer logic and data representation.

Website Development- Students will create websites containing text, images, and interactive elements such as videos. They will also gain an introduction to HTML.

Vector graphics This unit explores the creation of vector mages using specialised illustration software.

GameMaker Students will use this high-level visual programming language to learn

coding concepts, basic scripting and develop a maze game of their own theme, similar to PAC-MAN.

Year 9 Units

Python- Students will learn and apply the use of sequence, selection, iteration and string manipulation in this high-level industry standard programming language.

Interactive Multimedia Products- Students design and create an interactive multimedia product for a given scenario. The product will incorporate text, images, videos, sound and hyperlinks.

Image Editing with Photoshop- This unit introduces students to more complex photo editing techniques.

Digital Literacy- This unit increases students' understanding of the digital world and how to navigate it safely and effectively.

What students will study throughout Key Stage 4:

ICT

Course: Cambridge Nationals Creative iMedia Level 1/2 - J834

Students will study three units which are assessed either through an external exam or internally marked and externally moderated assignments:

Creative iMedia in the media industry - This is assessed by taking an exam. In this unit students will learn about the media industry, digital media products, how they are planned, and the media codes which are used to convey meaning, create impact, and engage audiences. Topics include:

- The media industry
- Factors influencing product design
- Pre-production planning
- Distribution considerations

Visual identity and digital graphics

This is assessed by completing a set assignment. In this unit students will learn to how to develop visual identities for clients and use the concepts of graphic design to create original digital graphics to engage target audiences. Topics include:

- Develop visual identity
- Plan digital graphics for products
- Create visual identity and digital graphics

Interactive digital media

This is assessed by completing a set assignment. In this unit students will learn how to plan, create and review interactive digital media products. Topics include:

- Plan interactive digital media
- Create interactive digital media
- Review interactive digital media

What students will study throughout Key Stage 5:

OCR Cambridge Technicals Introductory Diploma in Information Technology

This course gives students an excellent base of knowledge and skills to work in a variety of digital industries, which is a growth sector in the North East of England. Students will gain a broad understanding of how data and information is used in business, learning about topics including hardware and software, computer systems, communication systems, number systems, ethical and environmental considerations, computer legislation, how data is analysed and used in computer systems.

Course content:

Games Design and Prototyping

Students will learn about the key features of computer games and the importance of producing protypes before games are made. Students will then design and code a prototype of their own game which will be presented to key stakeholders. This unit allows students to be very creative and learn valuable industry skills.

Social Media and Digital Marketing

This unit looks at digital marketing as a concept and then offers the opportunity to explore the possible impacts, both positive and negative, that may be generated by the use of social media as a digital marketing tool. Students will plan the social media content of a

digital marketing campaign to meet identified business objectives.

Fundamentals of IT

This examined unit provides students with a broad understanding of how Information technology is used in a range of business settings. It will provide students with a base knowledge of different types of information systems, how to troubleshoot problems, communication protocols and number systems, and how to be an effective IT practitioner.

Global Information

Information is now an extremely valuable commodity. This unit explains how data is acquired, stored, analysed, and used. It provides a detailed understanding of legislation regarding the use of information in the United Kingdom and beyond. Students then learn the principles and applications of data security so that information can be protected.

Application Design

In this unit students will explore potential ideas for a new application and develop the

fundamental design for it. They will then develop the designs for an application and decide how users will interact with it.

Students studying ICT to Key Stage 5 and beyond will build a range of transferable skills in project management, presenting information using specialist software but will also be ready to work in a range of excite and in-demand careers. Possible careers include:

- Application developer
- Games designer
- Social media analyst
- Digital marketing manager
- Business systems analyst
- Information manager
- Graphic designer