



THE
**ROBERT
NAPIER**
SCHOOL



Computing Curriculum Overview 2023 – 2024

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| Department Name: | ICT and Computing |
| Head of Department: | T Smith |
| Subject Teachers: | T. Smith S. Iriajen A. Loweth S. Rekki |
| Accommodation and Resources: | The Computing and Business department is made up of 5 rooms, each with computers that have the necessary software for students to create various Word, PowerPoint and Excel documents as well as software that allows students to code using the Python programming language. |
| What will students learn in each year? | |
| Year 7 | <ul style="list-style-type: none">• E-safety – The importance of safety when using the internet• Understanding computers – An introduction to data storage and how computers work.• Micro: bit – An introduction to programming fundamentals• Spreadsheets – How to use spreadsheets to manage data and information.• Computer networks – How basic networks are built and used.• Scratch – Developing basic programming skills |
| Year 8 | <ul style="list-style-type: none">• Introduction to Python – An introduction to text-based programming.• Computer Systems – The communication and design of computer components.• Mobile app development – design and build a mobile app.• Office Skills – developing students basic office skills with Word and PPT.• Computer Crime – Build an awareness of malware, hacking and cybercrime.• Flowol – Using flowcharts to represent programs |
| Year 9 | Year 9 is a bridging year so students can embed key skills and knowledge to go into Key Stage 4 with confidence. This is to help secure progress at the end of Key Stage 4. It helps students to have some autonomy over their curriculum decisions, without narrowing their curriculum prematurely. |
| | IT: <ul style="list-style-type: none">• EduBlocks – This introduces students to Python.• Python– Introducing students to text-based programming, expanding on learning from year 8.• System Architecture – Understanding how core components such as the CPU work.• Illustrator – Students are exposed to different tools that Illustrator offers as they work towards creating their own vector image for a given scenario.• Photoshop – Students are exposed to different digital graphic editing tools. Students create digital graphics for a given purpose. |

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| | <ul style="list-style-type: none"> • Cybersecurity – Student learn about the different types of threats to a network. |
| Year 10 | <p>IT:</p> <ul style="list-style-type: none"> • R094 Visual Identity and Digital Graphics – Students will develop visual identities for clients. They will also learn to apply the concepts of graphic design to create original digital graphics which incorporate your visual identity to engage a target audience. • R097 Interactive Digital Media – Students will learn to design and create interactive digital media products for chosen platforms. They learn to select, edit and repurpose multimedia content of different kinds and create the structure and interactive elements necessary for an effective user experience |
| Year 11 | <p>IT:</p> <ul style="list-style-type: none"> • Algorithms – Computational thinking, Searching Algorithms, Sorting Algorithms, Flowcharts, Pseudocode, interpret correct complete algorithms. • Programming – Programming fundamentals, Sequence and selection, iteration, arrays, procedures and functions, records and files, SQL • Logic and Languages – Logic diagrams and truth tables, defensive design, error and testing, translators and facilities, IDEs |
| Year 12 | <p>IT:</p> <ul style="list-style-type: none"> • Unit 12 Mobile Technologies - The goal of this unit is to expand knowledge and comprehension of the extensive impact of mobile technologies on individuals and businesses. It emphasizes both understanding new technologies and encouraging critical analysis of current situations, aiming to propose improved solutions. • Unit 16 Smarter Planet - In this unit, students will explore how technological advancements have influenced daily life and why the concept of a “Smarter Planet” is significant on a global scale. Students will examine the evolution of the Smarter Planet in various contexts, including its societal impact. Additionally, students analyze potential future developments for the Smarter Planet and present a business proposal for a Smarter Planet concept to potential stakeholders, making revisions based on their feedback. • Unit 5 AR and VR – Students will acquire knowledge about technologies and their applications, particularly focusing on virtual and augmented reality. The learning includes researching and designing resources for both technologies. Moreover, students will utilize gained skills to propose future applications for virtual and augmented reality. |
| Year 13 | <p>IT:</p> <ul style="list-style-type: none"> • Unit 1 IT Fundamentals – Comprehending IT technologies and practices is crucial for IT professionals. This unit offers foundational knowledge in hardware, networks, software, ethical computer use, and the business applications of IT, forming a strong base for understanding these essential aspects. • Unit 2 Global Information - This unit aims to enhance students' understanding of how organizations utilize internal and external information sources. Students will learn about the different types of information they may come across and develop skills that provide insights into how information functions, as well as how data is stored and processed within organizations. Additionally, the unit will cover how individuals utilize various types of information. |

