**All Saints’ Academy Computing KS3 Curriculum 2024-2025**

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| Cycle/Year | 7 | | | 8 | | | 9 | | |
|  | Knowledge & Skills | Enrichment | Cross-Curricular | Knowledge & Skills | Enrichment | Cross-Curricular | Knowledge & Skills | Enrichment | Cross-Curricular |
| 1 | **Introduction to Using a Computer** - Logging in, creating files, managing workspace  **Programming 1 – Kodu**  - Introduced to KODU and its programming environment  - Explore movements, characters, and terrain building  - Make use of the block-based coding skills to build a successful game  - Drive your own project to create an exciting and intuitive game  *End of Module Assessment* | ***Year 7 – Cyber Explorers*** | **Mathematics:** Programming Logic  Students create simple programs using Microbit  that involve mathematical operations, such as calculating the sum of two numbers or creating patterns with LEDs based on mathematical sequences. | **Cyber Security** - Fundamentals of cyber security - Online safety and privacy - Digital footprint and social media - Cyber security tools and techniques  **Vector Graphics in Inkscape** - Drawing and manipulating shapes - Grouping objects, converting paths - Vector design based on a scenario  **Website Development Using Rocket Cake** - Basics of HTML and CSS - Creating and modifying web pages - Using search technology and hyperlinks  *End of Module Assessment* | ***Year 8 - BEBRAS*** | **Mathematics**: Geometric Transformations  Use Inkscape to explore geometric transformations such as scaling, rotation, and reflection.  Integration: Link geometric concepts to practical applications in vector design.  **Art and Design:** Graphic Design Principles  Create a project that involves designing a product (e.g., a logo, poster, or promotional material) using vector graphics. | **Graphics Designing Using Canva**  - Introduction to Canva  - Graphic design principles  - Designing marketing materials, presentations, infographics  **Introduction to Blender**  - 3D design and modelling  - Mini project: Pen topper  ECDL (European Computer Driving License)  - Proficiency in Word, PowerPoint, Excel  - Assessment against criteria  *End of Module Assessment* | ***Raspberry Pi Setup and configuration*** | **English:** Creating Promotional Materials  Design marketing materials such as brochures, flyers, or social media graphics for a fictional or real product or event.  **Art and Design:** Graphic Design Principles  Create a series of digital artwork or a portfolio showcasing different graphic design principles learned in Canva. This can include designing posters, flyers, or digital art. |
| Careers | Software Developer, Embedded System Engineer or STEM Educator | | | Graphics Designers, UI Interface designer or motion Graphics Designer | | | Computer Hardware Engineer, Software Tester or Memory Systems Architect | | |
| 2 | **Data Science – Spreadsheets:**  - Data entry, formatting, formula creation  - Data analysis and modelling  - Visual data presentation  **App Lab – Mobile Phone** **Development**  - Programming concepts: variables, loops, conditionals, functions  - UI design  - App development process  - Problem-solving skills  *End of Module Test Assessment* | ***Design for 3D printing*** | **Mathematics:** Use spreadsheets for calculations, modelling and graphs.  Using Algebra in Code and Algorithms. | **Game Development Competition using Game Maker Arcade** - Design and develop games based on competition criteria  **Creative iMedia – Pre-Production** - Pre-production documentation (mood boards, storyboards, scripts) - Time management, and planning skills - Legal and ethical issues, client requirement analysis  *End of Module Test Assessment* | **Game Development Competition** | **Mathematics**  Geometry: Use geometric principles for game design.  Algebra: Apply algebraic formulas for game physics, scoring systems, and character movement.  Statistics: Analyse player data to improve game design and mechanics. | **Alessi Inspired Phone Holder** - Working on a brief, product analysis - Designing for laser cutting - Evaluation against specifications  **Extended CAD Project** - 3D CAD design using TinkerCAD.  - Problem-solving, client feedback, 3D printing.  **Extended CAD Project** - 3D CAD design using TinkerCAD.  - Problem-solving, client feedback, 3D printing.  *End of Module Test Assessment* | **Cyber Adventurers** | ***Art and Design***  *Product Analysis: Study and incorporate design aesthetics inspired by Alessi, focusing on form, function, and visual appeal.* |
| Careers | **Mobile phone developer** | | | **Project Manager** | | | **Software Designer** | | |
| 3 | **Packaging pop-outs**  -Designing for others  -Design influence in our design ideas  -Sketching and modelling out your design ideas  -Modelling skills used in idea generation  -Production processes used in prototyping of design ideas  -Mass production of products.  - -Graphic communication  -An introduction to CAD & 3D modelling  -The world of design  -Technical drawings  -Printing Name tags  *Assessment: Project Evaluation* | **VR Experience** | **DT:** Working to create 3d modelling for use with 3d printing  **ART:**  Sketching and drawing for prototyping and printing | **Core design skills** -Graphic communication  -An introduction to CAD & 3D modelling  -The world of design  -Technical drawings  -Create and 3D print a pen  - Introduction to 3D Printing  - 3D Design Software the pen  - Designing a Model / Prototype  -3D Print  *Assessment: Project Evaluation* | **Web Design Contest** | **DT:** Working to create 3d modelling for use with 3d printing  **ART:**  Sketching and drawing for prototyping and printing | **Microbit**  **Revisited**  - Code with Python   - Variables, loops, conditionals, event-driven programming  **Microbit Wearable**  **3D printing group Project**  - Introduction to 3D Printing  - Understanding 3D Models  - Advanced 3D Design Software skills  - Designing a Model / Prototype  -Submit project  -Preparing for Printing  - Operating a 3D Printer  -Printing and Post-Processing  - Reflection and Evaluation  *Assessment: Project Evaluation* | ***3D design*** | **DT:** Working to create 3d modelling for use with 3d printing  **ART:**  Sketching and drawing for prototyping and printing  **English:**  Writing a project submission brief |
| Careers | **CAD Engineer, Game Designer** | | | **Animator, Product Engineer** | | | **3D Graphics Designer, Game developer** | | |