**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 LogicStudents create simple programs using Microbitthat 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 TransformationsUse 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 PrinciplesCreate 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 topperECDL (European Computer Driving License)- Proficiency in Word, PowerPoint, Excel- Assessment against criteria*End of Module Assessment* | ***Raspberry Pi Setup and configuration*** | **English:** Creating Promotional MaterialsDesign marketing materials such as brochures, flyers, or social media graphics for a fictional or real product or event.**Art and Design:** Graphic Design PrinciplesCreate 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**  |