BEACONSFIELD HIGH SCHOOL

Computer Science Grade Descriptors

Topics	Emerging	Proficient	Confident	Mastery
Algorithms	Students can follow and create simple step-by-step algorithms using everyday language or flowcharts to solve straightforward problems.	Students can design structured algorithms using sequence, selection, and iteration, and explain how their algorithm solves a given problem.	Students can compare different algorithms, selecting appropriate searching or sorting methods based on efficiency and context.	Students can evaluate and justify algorithmic choices, explaining trade-offs in efficiency and applying algorithms to unfamiliar or complex problems.
Programming & Development	Students can create basic programs using block-based languages, using sequence, simple selection, and variables.	Students can write and debug programs in both block-based and text-based languages, using procedures, iteration, and lists to solve problems.	Students can independently design, implement, and test programs in a text-based language and using subroutines. Students can create a simple event driven mobile app as well as a web site.	Students can develop complete projects, writing efficient, well-structured code and reflecting critically on improvements. Using data structures such as lists. Students can create a complex event driven mobile app.
Data & Data Representation	Students can convert between denary and binary, identify common data units, and describe how data such as images are stored.	Students can perform binary arithmetic, compare compression methods, and explain how different data types are represented digitally.	Students can analyse data meaningfully using tools such as spreadsheets, applying formulas and interpreting trends and patterns.	Students can evaluate data representation and encryption methods, explaining limitations, security implications, and real-world applications.
Hardware & Processing	Students can identify and describe the function of basic computer components and classify devices as input, output, or storage.	Students can explain and compare the role and need of instruction sets	Students can compare different instruction sets and discuss efficiency, optimisation, and performance in computing systems.	Students can identify the style and use of software on a mobile device.

Communication & Networks	Students can describe basic internet use and safety including AI for learning.	Students can identify clients and servers, recognise parts of a URL. Students can explain how data is transmitted using packet switching and describe the benefits of distributed networks.	Students can evaluate the reliability, security, and ethical implications of internet use and online services.	Students can confidently discuss ethical issues that come with internet use such as copyright and data laws.
Information Technology	Students can use school IT systems responsibly, including email, file storage, and collaboration tools.	Students can create, organise, and present digital content effectively using a range of productivity tools, specifically Office 365.	Students can select appropriate IT tools to analyse data, communicate ideas, and solve real-world problems.	Students can work independently and creatively with digital tools, evaluating their effectiveness and demonstrating professionalism and digital responsibility.