

Year 8 Digital Technologies (Semester 1 or Semester 2)

Achievement

By the end of Year 8, students distinguish between different types of networks and defined purposes. They explain how text, image and audio data can be represented, secured and presented in digital systems. Students plan and manage digital projects to create interactive information. They define and decompose problems in terms of functional requirements and constraints. Students design user experiences and algorithms incorporating branching and iterations, and test, modify and implement digital solutions. They evaluate information systems and their solutions in terms of meeting needs, innovation and sustainability. They analyse and evaluate data from a range of sources to model and create solutions. They use appropriate protocols when communicating and collaborating online.

Assessment Criteria

An overall level of achievement in this subject is determined by the teacher's on-balance judgment of the evidence presented in students' summative assessment across the following:

- Knowledge and Understanding: digital systems and representation of data
- Processes and Production Skills: collecting, managing and creating data, defining, implementing, evaluating, collaborating and managing

Delivery (mode, time requirements, lessons)

Students have access to a 45 minute scheduled lesson and a 45 minute tutorial each week. Lessons are delivered via the online learning management system. Students are also expected to undertake independent study on their program to complete lessons, tasks and assessment in accordance with the Work Rate Calendar.

Student Requirements

Computer/Laptop, Software, reliable internet connection with ample download, Microsoft Office. Due to the nature of this course there is no printed or disc copy. Students will be required to sign up to some online resources.

Units and Learning Experiences, Summative Assessment, Criteria Assessed, Approximate timing/due date of summative assessment		
Term 1 or 3	Module 1	<p>The Design Process In this module students transition from thinking about computer science as a tool to solve their own problems and begin to examine the broader social impacts of computing. Through a series of design challenges, students consider and understand the needs of others while developing a solution to a problem. Students prototype an app and test their solution with real users to get feedback.</p>
		<p>Summative assessment, criteria assessed:</p> <ul style="list-style-type: none"> • Project folio of working programs and final assessment task – Prototype an App.
Term 2 or 4	Module 2	<p>Computers and Binary All computer data including text, images and sound is represented using binary. Work between ASCII and Unicode to understand the relationship between them. Encode images using binary. Explore converting between text and sound and the file formats used to store files. Create a website for a user that requires audio support.</p>
		<p>Summative assessment, criteria assessed:</p> <ul style="list-style-type: none"> • Create a webpage
	Module 3	<p>Networks and Performance Students will develop a basic understanding of the terms speed, bandwidth, throughput and latency to enable students to discuss network performance. They will explore instances when wireless and wired connections are used and discuss the advantages and disadvantages.</p>
		<p>Summative assessment, criteria assessed:</p> <ul style="list-style-type: none"> • Exam

Disclaimer All of the above information is accurate at the time of development.