

Digital Solutions

General senior subject

General

Digital Solutions enables students to learn about algorithms, computer languages and user interfaces through generating digital solutions to problems. Students engage with data, information and applications to create digital solutions that filter and present data in timely and efficient ways while understanding the need to encrypt and protect data. They understand computing's personal, local and global impact, and the issues associated with the ethical integration of technology into our daily lives.

Students use problem-based learning to write computer programs to create digital solutions that: use data; require interactions with users and within systems; and affect people, the economy and environments. They develop solutions using combinations of readily available hardware and software development environments, code libraries or specific instructions provided through programming.

Students create, construct and repurpose solutions that are relevant in a world where data and digital realms are transforming entertainment, education, business, manufacturing and many other industries.

Pathways

A course of study in Digital Solutions can establish a basis for further education and employment in the fields of science, technologies, engineering and mathematics.

Objectives

By the conclusion of the course of study, students will:

- recognise and describe elements, components, principles and processes
- symbolise and explain information, ideas and interrelationships
- analyse problems and information
- determine solution requirements and criteria
- synthesise information and ideas to determine possible digital solutions
- generate components of the digital solution
- evaluate impacts, components and solutions against criteria to make refinements and justified recommendations
- make decisions about and use mode-appropriate features, language and conventions for particular purposes and contexts.

Structure

Unit 1	Unit 2	Unit 3	Unit 4
Creating with code <ul style="list-style-type: none"> • Understanding digital problems • User experiences and interfaces • Algorithms and programming techniques • Programmed solutions 	Application and data solutions <ul style="list-style-type: none"> • Data-driven problems and solution requirements • Data and programming techniques • Prototype data solutions 	Digital innovation <ul style="list-style-type: none"> • Interactions between users, data and digital systems • Real-world problems and solution requirements • Innovative digital solutions 	Digital impacts <ul style="list-style-type: none"> • Digital methods for exchanging data • Complex digital data exchange problems and solution requirements • Prototype digital data exchanges

Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): • Investigation — technical proposal	20%	Summative internal assessment 3 (IA3): • Project — folio	25%
Summative internal assessment 2 (IA2): • Project — digital solution	30%	Summative external assessment (EA): • Examination	25%

Additional Requirements

Study Requirements	Special Requirements
<p>This is a General subject and as such requires a significant commitment of time and energy to complete the course successfully.</p> <p>As a guide students should be completing 120 minutes of revision and homework a night in addition to assignment requirements.</p> <p>Students are encouraged to develop and maintain a study plan to assist in revising concepts learnt during face to face lessons.</p>	<p>Kepnock SHS is an iPad school. School owned devices are available for use within our student resource scheme.</p> <p>Students will be required to bring an iPad (9.7/10.2 inch, running iOS 14 or better, with 32 GB storage) to school each day.</p> <p>The school has a replacement scheme for iPads that need to be serviced or repaired. (Please note, no other BYO device is supported by the school.)</p>