DIGITAL TECHNOLOGY (COMPUTER SCIENCE)
1TECC

What is this course about?

To expose students to design thinking, working collaboratively on projects and developing investigative skills into the world of computer science. Students will develop their ideas into a working outcome by the end of the course in web development or computer programming. Please note: you do not have to have programming or scripting language experience to enter this course in Year 11.

What sorts of things will I do?

Develop a proposal and construct an online game (or other digital outcome of your own choice) using an object oriented language eg. javascript, python, or C#. Another popular project context is to develop a website using scripting languages: html, css and Bootstrap.. If you want to further your knowledge of data structures you have options to incorporate a database using php or firebase. You will also investigate a computer science concept e.g. compression, HCI, encryption and produce a report on your investigation and apply these skills to one or more of your own projects.

Big Ideas & Significant learning

Digital Technologies is a broad subject that covers many domains, for example: software programming, electronic environments and embedded systems, digital information systems and digital media.

- The discipline of Digital Technologies embodies whanaungatanga. Outcomes are made by people, for people, within cultural, social, and environmental contexts
- Digital outcomes are created for a purpose by following established processes
- The discipline of Digital Technologies embodies auahatanga. Outcomes solve problems and enhance and expand human possibilities
- All digital technologies are underpinned by algorithms and computer science principles

What standards can I enter?

NCEA Level	Standard Number	Name of standard	Version number	Credits	Assessment	Approximate assessment date
1	AS92004	1.1 Create a computer program	2	5	Internal	Term 1 -2
1	AS92005 - 1.2	1.2 Develop a digital technologies	2	5	Internal	Term 1-2

		outcome				
1	AS92006	1.3 Demonstrate understanding of usability in human-computer interfaces	2	5	External	Term 3

Frequently asked questions

Do we have to do all the course assessments?

A course completion is usually considered to be 14 credits, you can choose what assessments you would like to do but you need to consult with your teacher and HOD of technology and your parents need to be involved with this process.

I am interested in doing electronics, is this possible?

Yes, if you have a clear project idea using a microcontroller. We are here to accommodate your interest. You are expected to carry out independent research and manage your own project. With regards to the microcontrollers, you will be encouraged to use Arduino or ESP32 to program. You will have access to a 3D printer to create other required parts for your project.

I am only interested in Web Development?

Yes, we will have a chance to cover HTML/CSS/JQuery and other javascript libraries to make an authentic website. You will be required to work to create a website for a specific purpose using an iterative development process.

I am only interested in programming?

Yes, we will have a chance to learn Python programming language to create a computer program. In the past, students have created an arcade game, a trivia quiz, a hangman type game or a takeaway ordering program. We will discuss the required programming styles so you will follow correct conventions when coding. If you are interested in using any other programming languages including Java, Javascript, C#, GoDot or Unity, you are welcome to negotiate this with the teacher.

I have a great project in mind that I would like to work on with some other students, is this possible?

Yes. you are encouraged to find an authentic project context. We find that when students are really interested in the project, they will generally produce quality outcomes. Please let your teacher know your intentions before you progress into the project. We will need to ensure that the project has enough scope to meet all criteria in the standard.

I am new to the course, is this going to be too hard?

You will need to do some online homework tutorials, serious study is needed, please consult with the teacher to get information on what you need to do. I won't lie, it is hard, but it has been done before and if you are really keen on computer science then dedication and commitment to homework will definitely be your friend. If you commit, then the teacher will also give you some of their own time via lunchtime workshops.

Vocational Pathways

You may have heard already, IT jobs in New Zealand are on the skills shortage list. With a good qualification and the right attitude, you should be able to find a rewarding IT job in any location throughout the world.

For example, Amazon has announced that they will create a data centre in Auckland. They are planning to spend $7.5 billion dollars and create 1000 IT-related jobs.

Our students in this course will often progress to a computer science or software engineering course in a New Zealand university.

Subject requirements for assessment authenticity

Students have to sign the external submission sheet/envelope authenticity statement.