NORTHPINE
CHRISTIAN COLLEGE

Digital Technologies

At Northpine, students investigate digital technologies and how this impacts on their lives now and into the future. Digital Technologies gives students a range of skills that allow them to express themselves creatively in ways that we haven't even thought of before.

Curriculum Overview

At Northpine Digital Technologies provides students with practical opportunities to use design thinking and to be innovative developers of digital solutions and knowledge. The subject helps students to become innovative creators of digital solutions, effective users of digital systems and critical consumers of information conveyed by digital systems.

Digital Technologies provides students with authentic learning challenges that foster curiosity, confidence, persistence, innovation, creativity, respect and cooperation. These are all necessary when using and developing information systems to make sense of complex ideas and relationships in all areas of learning. Digital Technologies helps students to be regional and global citizens capable of actively and ethically communicating and collaborating.

Digital Technologies

Course focus

Year 7

The Year 7 Digital Technologies course is a term based rotation class that provides students with a short experiences in this subject.

In particular they identify areas on the internet that could compromise safety or security. Real-life situations faced by students and problems that they encounter in the digital world are discussed and analysed.

Further to this the course encourages students to investigate ways of keeping personal details secure so as to minimise a person's 'digital footprint' and the chance of falling into danger through social media trolling.

Next the couse also covers essential coding is in modern society, especially how it leads to career paths in the present and how the need for programmers will increase enormously in coming years. Students use block-based coding and the features of Scratch programming to modify existing projects and to produce original projects.

Year 8

The Year 8 Digital Technologies course is an elective class that students can select to study for one Semester.

Students will have opportunities to create and code digital solutions to real world problems using Lego Mindstorms Educational EV3 Robotic technology. This challenges the students to improve critical-thinking, problem-solving, and collaboration skills as they go about building a robot and then coding it to perform various tasks.

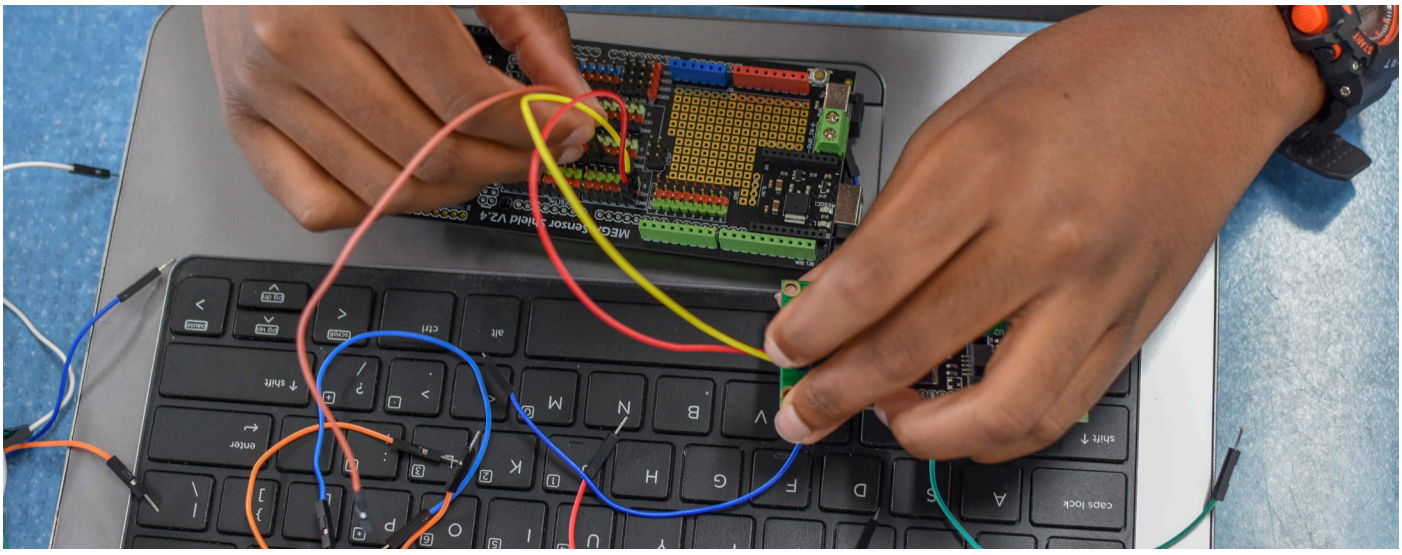
They will also develop a deeper understanding of how networks, and ultimately the Internet links up billions of devices through the use of Micro:bit technology. The Micro:bit is a tiny programmable computer, designed to make learning easy and fun! Through the use of this tiny computer students can investigate how data is transferred between Micro:bits, and ultimately how network devices transfer data. Students are also immersed in coding as they interact with the Micro:bit devices.

Year 9

Like the Year 8 Digital Technologies course the Year 9 Digital Technologies course is also a one Semester elective class.

The first term of this class is spent on a uniit entitled "Data Data Everywhere". In this unit students learn how the binary number system works, how we can represent text using binary numbers and learn one of the representations of the standard English alphabet used by computers. They look at how the same concepts apply to non-text data and analyse the effectiveness of some binary representation techniques to various types of data.

The second term is spent on a unit entitled "Arduino Microprocessors". In this unit students learn using the open source Arduino platform to investigate microprosseors using various sensors and simple coding. The have the opportunity to have a look at projects others have done using the Arduino microprocessor and then use their creative Digitial Technology skills to come up with their own project. It could be anything from a simple adaptation of some project to being the next great technological invention!



Career Opportunities

architecture, digital media design, fashion design, graphic design, industrial design, interior design, landscape architecture, civil, mechanical, mechatronic, electrical, aerospace, mining, process, chemical, marine, biomedical, telecommunications, environmental, micro-nano and systems, project management, aviation, surveying and spatial sciences.

Enquiries

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