

STEM Learning for the Future: Technology

Design and technology skills are needed to create new products, materials and buildings, to inform and communicate, and to enhance the use of virtual reality modelling, particularly in research and teaching applications.

The Asia-Pacific Information Communication Technology (ICT) market is the fastest growing IT region in the world, offering almost limitless opportunities for specialists in a broad spectrum of digital and technological applications.

Coding

Coding is the new literacy and a 'must have' for every student. It is the programming language you use to tell a computer what you want it to do. Just as our students learn a language like Mandarin or Japanese, all students need to learn the language of programming.

If you can speak the language of code you can create the solutions needed for the 21st century. Using code, students can learn to apply technologies to solve global issues and improve lives, for example, by developing new software and communication technologies, and through the use of robotics.



Christy (Hong Kong):

I chose Balmoral State High School because they have a great international student program and they offer Aerospace and Film and Television at school. My favourite subject is Film, Television and New Media. We do written production and design tasks. I attend classes three times a week; it's a lot of fun and I received an award last year.

In the future, I would like to continue studying Film, Television and New Media and go to university to study screen production at Griffith University. I would love to be a script writer or director in the future.



Philip (PNG):

“At Trinity Bay State High School I entered a graphics class, something I would not have the chance to do in Papua New Guinea. I found this subject very interesting and am achieving good grades. This has encouraged me to pursue a career as an architect.

After completing my senior high school program (Years 11 and 12) – at Trinity Bay, I will be going to university to obtain a design degree and then complete my Masters; this will qualify me as an architect.

Without the help and support of the staff at Trinity Bay State High School I would not be succeeding as well and would not have had the opportunity to discover a pathway that has me excited about the future.”

Why study Digital Technologies?

More than 90% of Australia's current workforce will need digital skills to perform their roles in the next 2-5 years and 60% of Australian students are studying or training for jobs that will be largely automated in the near future.

(Source: Foundation for Young Australians, 2015, The new work order: ensuring young Australians have skills and experience for the jobs of the future, not the past)

Digital Technologies in Queensland state schools

Queensland state schools are fast tracking the implementation of the 'Australian Curriculum: Digital Technologies' for students in Prep to Year 10.

The curriculum provides students with practical opportunities to use coding and robotics to create solutions to real world problems.

What will students learn?

- Prep: how digital technologies work through exploration and problem-solving.
- Years 1 and 2: how digital and other technologies work and how to create solutions with technologies through exploration, design and problem-solving.
- Years 3 and 4: create digital solutions such as animations and games through the use of visual programming.
- Years 5 and 6: use design processes to produce digital solutions. Further develop knowledge and understanding of digital systems and data and staying safe online.
- Years 7 and 8: create a range of digital solutions, such as robotics, using programming. Communicate and collaborate online; cyber-safety; and legal responsibilities.
- Years 9 and 10: solve complex problems through the creation of digital solutions. Create a range of sustainable digital solutions, such as data driven websites and artificial intelligence.

STEM programs in Queensland Government schools

EQI schools offer a wide range of STEM subjects, excellence programs and after school activities to bring students to the forefront of science, innovation and technology to become the architects of the future.

Develop your scientific potential at a Queensland Academy

High achieving students can benefit from unique partnerships with The University of Queensland, Queensland University of Technology and Griffith University, enabling them to specialise in their favourite STEM subjects and enjoy a smooth transition from high school to university study.

Pathways to tertiary study

High quality teaching and academically rigorous programs prepare students for their choice of tertiary study or training. As an EQI student you can even experience university study while still at high school.

For more information about STEM programs at Queensland Government schools please visit

eqi.com.au/why-queensland/choice-of-subjects/stem/technology

or email

EQIMarketing@det.qld.gov.au