

eLearning Programs, Training & Support **2015**

Department of Education, Curriculum Services

NEW IN 2015

Technology in Schools

“POWERFUL TOOLS FOR POWERFUL LEARNING”

eLearning Programs is a department of Education curriculum service which offers schools a variety of online K-10 courses and programs which can complement, augment or extend local provision and provide students with access to educational experiences and opportunities that would otherwise be unavailable. In 2015 eLearning is offering schools access to a number of innovative and emerging technologies in order to provide new and exciting learning possibilities for students across the Australian Curriculum.

FEATURES

- Opportunity to borrow sets of new and emerging technologies not readily accessible to many schools
- Supported by a ready to go virtual learning environment Fronter room with activities, resources and curriculum links mapped to AC
- Explore new pedagogies, task design and good teaching approaches using digital tools
- Contribute to a bank of good teaching ideas and resources
- Opportunities for cross-school collaboration and sharing suitable for whole class or small groups

PROGRAMS AT A GLANCE

Course	Year	Description	Curriculum Connections
3D Printing	3-12	Computer aided design, prototyping and manufacture using 3D printing	Digital/Design Technologies
Virtual Reality	7-12	Experience and develop Virtual Reality (VR) experiences and environments using 'gaming style' 3D headsets	Digital Technologies
Vinyl Design & Cutting	5-12	Computer aided design, prototyping and manufacture using vinyl cutters	Digital/Design Technologies &, Visual Art
Control Technologies	5-12	Develop skills and understandings in the applications of control technologies in a variety of fields	Digital Technologies, Science
GIS and GPS Technologies	3-12	Geospatial and Geographical Information technologies for a range of applications and research	Digital Technologies, Geography
Robotics	3-12	Ranging from simple programmable bots through to more sophisticated Lego Mindstorm kits	Digital Technologies,

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3D Printing

The potential presented by direct digital manufacturing and rapid prototyping systems in education is gaining traction. Our world changes at such a rapid pace, more than it has in the past. The ability to solve real problems in the physical world is one of the key strengths of 3D printing. When children use 3D printers, they have a mindset for better learning, one where it was okay to make mistakes. This contributes to boldness for design, increasing confidence and imagination. Having the shift in mindset that students can make objects to change the environment around them, allows them to solve real world problems.



Virtual Reality

Virtual reality, game-based learning and immersive environments are increasingly being used in education. This program allows students to download Virtual Reality games, experiences, and apps built by other developers and build applications that transport users to immersive, 360-degree 3D worlds where they can game, learn, explore, and experience virtual reality like never before. Let your imagination run wild, and build your own worlds that other developers and enthusiasts can visit in a VR community.



Vinyl Design & Cutting (CAD/CAM)

Vinyl cutters are an invaluable tool and technology to teach students 21st century skills and can assist in the advancement of Science, Technology, Engineering and Maths (STEM) education—by enabling students to apply their learned knowledge toward the design and production of real-world products. This program provides a technology rich approach to teaching students sign making, graphic design, and CAD/CAM, (Computer Aided Design/Computer Aided Manufacturing)



Control Technologies

Control technologies are now pervasive throughout society. This program allows students to develop skills and understandings in the applications of control technologies in a variety of fields including science, electronics, physics, computer literacy and computer assisted manufacturing. Using Arduino components and relevant software students will develop basic programming skills and use them to solve a variety of problems. Potential educational applications include introduction to programming, basic computing hardware learning sequences and the ability to program a computer to interact and respond to the environment.



GIS and GPS Technologies

Cloud computing, mobile devices, user-friendly apps and the growing collection of business and location data systems have made smart mapping and location technologies, such as GIS (Geographic Information Systems) and GPS (Global Positioning Systems) a common toolset for a range of applications. Provides access to a range of tools and technologies which will give students and teachers a hands on introduction to several spatial data systems and is particularly relevant for Australian Curriculum Geography.



Robotics

An exciting and engaging program designed to inspire the investigation of a range of skills and concepts in Science, Technology, Engineering and Maths. This uses a range of robotic systems and software appropriate for different age and ability levels. Hands-on learning involving key hardware basics and software programming fundamentals using easy to use robotics technology and simple machines. Supports general capabilities including critical thinking, problem-solving, teamwork and cooperative learning.



HOW TO GET INVOLVED

Sets of technology for these programs is available free to Department of Education schools for blocks of 4 weeks at a time. There is an online form for each program available at:

<https://www.education.tas.gov.au/intranet/EYS/Curriculum-Services/Pages/eLearning-Programs.aspx>



Materials/Equipment/Software is provided as a part of the program. In some cases free software may need to be downloaded to any school computers that students will be using.

All programs are supported by a Fronter VLE Room (Virtual Learning Environment) with access to an online classroom which contains course material and resources. The VLE room provides

- Teacher notes and help area
- A week by week set of activities
- Extension and challenge activities for students which cater to a range of abilities
- The opportunity for students to discuss ideas and showcase their work with others through secure online spaces

Curriculum Services eLearning staff will visit your school to deliver equipment and attendance at the provided information sessions will help you get started.

Please Note: There is an expectation that through participation in this program you will contribute some examples of how the tools were used for effective teaching. This is to support the development of a bank of good practice teaching ideas and resources across the curriculum. This may comprise lesson plans, feedback, tricks and tips, work samples incl. videos, photos etc. and may be showcased on a Curriculum Services website.

CONTACT

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