

3D Printing and Designing for the Classroom

An introductory workshop for primary and secondary teachers across all KLAs wishing to introduce 3D design and printing into their classrooms and coursework.

Teacher Professional Learning Workshop (5 non-registered hours)

3D printing can be a deeply satisfying experience for students raised as screen consumers, and the ultimate constructivist learning activity. It is a forging technology and inspires imaginative thinking, problem solving and creativity.

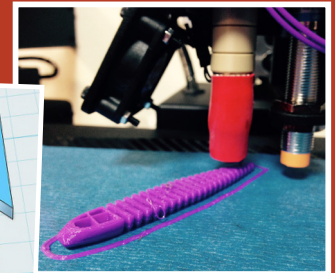
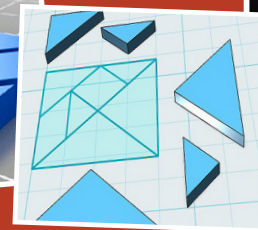
However, becoming sufficiently proficient with 3D printing (and designing) involves the investment of considerable time and expense as well as the inevitable frustrations involved in experimentation. A further challenge is the steep learning curve associated with mastering professional CAD software - an unrealistic expectation for most teachers.

This workshop will utilise free, user-friendly tools which facilitate rapid design, and are 3D printer-friendly.

We cover everything teachers need (or want!) to know in order to establish 3D printing as part of their teaching programs. The hands-on activities we use are proven to be successful and adaptable for a wide range of students.

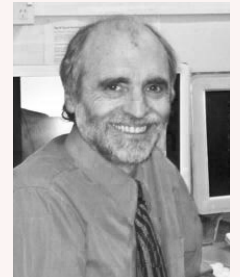
During this workshop, participants will:

- > learn to distinguish between three major 3D printing technologies
- > learn to embed relevant 3D printing experiences for students appropriately to deepen and enrich learning in a range of curricula
- > develop project-based teaching sequences using 3D printing
- > design learning experiences for students using 3D printing for problem solving
- > understand hardware and software requirements for FDM 3D filament printing
- > learn a number of suitable entry level 3D design software applications
- > understand the various file formats and their uses
- > learn to use slicing and 3D printer software
- > understand the strengths and weaknesses of a variety of printing filaments, including ABS, PLA and wood based polymers and 3D printer limitations
- > learn about 3D model online repositories
- > learn to use *SketchUp* to design a 3D object
- > print a 3D object designed during the workshop.



Course Developer and Facilitator David Grover

David held the position of Head Teacher of Computing at Chatswood High School for many years, is an experienced presenter and lead author of the current Pearson/Cengage text for Information and Software Technology. David is presently adjunct Lecturer in the School of Education at Macquarie University and a teacher mentor for the STEM Academy at Sydney University. David has established a reputation for expertise in digital education.



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Please note: Any cancellations made within 5 days of the course, or no-shows, will be charged to your school.

WHO All teachers K-12

WHEN Please see our website for upcoming dates:
www.macict.edu.au

TIME 9am-3pm

LOCATION North Ryde, NSW

COST \$245 (incl GST)

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