

**Keywords:**

Using CAD to develop 3D design and engineering skills

**Learning areas:**

Art and Design  
Digital and Design Technologies  
Maths

Checkmate is a Computer aided design crash course (no prior experience required) focussed on giving teachers and students the skills and core concepts to utilise advanced CAD software (free for educational use) to digitally prototype and use rapid prototyping technologies such as 3D printing and laser cutting. The program also introduces digitally produced engineering drawings and engineering measurement to build student spatial reasoning and prepare them for subjects and careers that involve dimensioned drawings. This session will also examine the free Tech school produced introduction to 3D modelling course (approx. 8 hours content) including student workbooks, practical files and video tutorials to further aid teachers in upskilling and teaching CAD. If you've used basic CAD programs before and are looking for the next step, have 3D printers at your school that just haven't gotten enough use, or haven't used CAD and want to see what it's all about and how it might be useful for your students then this is the session for you.

Lachlan is a Mechatronics Engineer (a mix of mechanical and electrical engineering with a focus on robotics and automation) working as a Program Facilitator at the Geelong Tech School. His role includes content development and specialised teaching to support partner schools as well as maintenance, expansion and operation of the Tech School's manufacturing wing. He teaches engineering design and design thinking in the new landscape of digital and rapid prototyping with sessions ranging from crash courses to full start to finish humanitarian design sprints.

**Preparation materials:**

Link for educational software license and software download for installation

<https://www.autodesk.com/education/edu-software/overview?sorting=featured&filters=individual>

Please create an educational account before the session and download the software if you are able. The software can also be run through a web page here

<https://fusion.online.autodesk.com/> if you are unable to install.

For more information in relation to the tech school please visit our website

<https://www.geelongtechschool.vic.edu.au/programs/check-mate/>

For free booking of Tech School programs for partner schools, or for booking further by all schools CAD content (discussed in session) head to

<https://www.geelongtechschool.vic.edu.au/teacher-portal/>