

Unpacking Computational Thinking: Stage 4

An essential problem-solving process for a digital world.

Teacher Professional Learning Course for TAS Teachers and Teachers of STEM Subjects (5.5 non-registered hours)

What is all the excitement over Computational Thinking (CT)? How does it address NSW Syllabus requirements?

Computational Thinking (CT) is an integral component of the newly-endorsed Digital Technologies Syllabus, but what is it? In this introductory course you will have the opportunity to learn the elements of computational thinking, how they relate to your current teaching environment, and how you can incorporate them into your day to day teaching. You will use a combination of apps, software and off-computer activities to develop skills and understandings of computational thinking and gain ideas on how to integrate it into your current units of work.

Definition: Computational Thinking (CT) is a problem-solving method that is applied to create solutions that can be implemented using digital technologies. It involves integrating strategies, such as organising data logically, breaking down problems into parts, interpreting patterns and models and designing and implementing algorithms.

(Australian Curriculum: Technologies)

In this workshop, participants will explore computational thinking skills through a variety of activities both digital and unplugged. These activities are linked to content across a number of syllabuses. These activities are also designed to develop participants' ability to recognise computational thinking elements in their current teaching and learning.

Participants will be introduced to *Processing*, a creative programming language developed for the Visual Arts. They will be shown how everyday searching and problem solving can be improved with the computational thinking approach.

"Computational thinking is recognised as a skill set that every child needs to develop. It is related to a number of 21st century competencies including problem solving, critical thinking, productivity and creativity." (EDUsummit 2013)

"To flourish in today's world, computational thinking has to be a fundamental part of the way people think and understand the world."

Carnegie Mellon, Centre for Computational Thinking



Course Developer & Facilitator

Dr Sarah Boyd

Sarah is a MacICT facilitator and part-time high school teacher of Computing and Mathematics. She has recently retrained as a teacher having had a long career as a software programmer and Electrical Engineer. She has a PhD in Computer Science, and began facilitating at MacICT in 2014 where she combines her engineering and programming background with her love of teaching.



REGISTER NOW!

Register online through MyPL@EDU
<https://www.det.nsw.edu.au/docprs/welcome.do>

MyPL Course Code: DV03155

NSW DoE teachers: Log into MyPL@Edu with your DoE credentials & search for the course using the above code or course title. Government schools will be charged internally by the NSW Department of Education. This will be reflected on your sundry tax invoice statement.

Non-DoE teachers: You will need to sign up for a username and password to access MyPL. Just click "Don't have a username" on the MyPL website and follow the instructions. Private schools and other institutions will be invoiced by the NSW Department of Education.

Please note: Any cancellations made within 2 days of the course, or no-shows, will be charged to your school.

WHO Stage 4 TAS teachers and teachers of STEM subjects

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

TIME 9am-3:30pm

LOCATION North Ryde, NSW

COST \$245 (incl GST)

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