CSER Digital Technologies MOOC

The CSER digital technologies MOOC is hosted by the Computer Science Research Group, based at the School of Computer Science, University of Adelaide, and developed with the support of Google.

About the Course:
This free and open course will explain the fundamentals of digital technology and computational thinking, specifically addressing the learning objectives of the Australian Digital Technologies curriculum (Foundation-6).

Come and learn about how digital technology can be integrated into your classroom, exploring example lesson plans, and helping form a community designed to share resources and support.

Audience
This course is designed for Australian primary school teachers (F-6) and pre-service teachers, with course modules that align with the learning objectives from the Australian Digital Technologies curriculum. Although the course is developed for F-6 year levels, we foresee those in other year levels, such as high school, benefiting from the foundational concepts. Anyone with an interest in the topic is also welcome to participate.

Outline
We have organised modules around the five sub-strands in the Australian digital technologies curriculum. In each module we explore computer science and computational thinking concepts, which provide foundational knowledge for all teachers, moving toward examples and ways to consider teaching the concepts from the very early learning objectives (Foundation), building up toward the Year 6 objectives. Teachers are able to select and focus on the resources and lessons relevant to their preferred year levels, however we encourage teachers to explore and engage all year levels. The course will be taught over 8 weeks, with a 2-week break at week 4. Teachers should expect to spend 2-3 hours per week on the course.

The **module topics** include:

Module 1: Welcome and Introduction
Module 2: Data (Patterns and Play)
Module 3: Data (Representation and Binary)
Module 4: Digital Systems
Module 5: Information Systems
Module 6: Algorithms and Programming
Module 7: Visual Programming and Visual Programming Environments

Course Format
Teachers will explore text, video and digital content that we have created here at CSER, but we will also be drawing on excellent existing resources and videos that have been developed by our national and international CSEd colleagues and partners. In addition, we will be providing additional resource collections for each module, designed to provide further inspiration and opportunities for collaboration and activity development.

The modules and activities are designed to provide teachers with fundamental knowledge, and to encourage them to be creators of digital technologies lessons. Teachers will be encouraged to adapt and use the resources and ideas presented to suit their year levels and to think about how they might build lessons and unit plans based on their learned knowledge; applying teaching expertise, knowledge of existing resources, approaches and pedagogy.

Learning and assessment
Each week, teachers will be asked to complete a short online quiz or a small practical activity (such as contributing towards a digital collage or finding a news article), testing knowledge about the concept and content presented for the week. These activities are designed to reflect activities that might be adapted and used in the classroom. The final course assessment will be a peer-reviewed mini-portfolio of lesson plans.

Certification
Teachers who successfully complete the course modules (indicated through completion of key lessons and activities) and the mini-portfolio will be recognised through a certificate stating their completion.

More Information: please visit csdigitaltech.appspot.com to register or contact cser@adelaide.edu.au for more information.