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**WORKSHOP**

# Competency Based Unit Design: Building on Foundational Mastery

Ashlee Pearson[a] and David Lowe[a]
[a] *School of Computer Science, Faculty of Engineering, The University of Sydney*
*Corresponding Facilitator's Email: ashlee.pearson@sydney.edu.au*

## WORKSHOP MODE

In-person.

## BACKGROUND OF WORKSHOP

Commencing student cohorts generally exhibit significant diversity in academic preparation, motivation, and learning approaches. Despite this diversity, first year courses are often inflexible and linear, designed on an assumption that all students should be able to (indeed are required to) progress at the same pace while accumulating marks on assessment tasks. This approach often fails to challenge advanced students and limits the ability of struggling students to catch up, resulting in scenarios where students spend considerable time grappling with advanced concepts without having mastered the more critical foundational concepts. This can lead to negative feedback, high disengagement and failure rates, and missed opportunities for enhancing learning practices.

Two large first year units in the Faculty of Engineering at The University of Sydney have shifted to competency-based unit models by adopting 1) a clearly defined hierarchy of learning outcomes, distinguishing crucial foundational knowledge from more advanced but non-essential concepts and 2) a competency-based assessment model where, rather than final grades being based on accumulation of marks, they are based on students' demonstrating progressive competence against the learning outcome hierarchy.

## ACTIVITIES

Participants will discuss various relationships between learning outcomes, assessment and student learning and the assumptions that sit between these relationships and unit design.

## TARGET AUDIENCE

Those interested in adopting a novel teaching approach that support foundational knowledge mastery and enhanced student experience in diverse cohorts.

## OUTCOMES

Participants will have discussed unit design and questioned some of their prior held assumptions about the relationships between learning outcomes, assessment and student learning. They will leave with ideas about how to adapt their own learning design to address student diversity.

## KEYWORDS

Competency based assessment, curriculum design, learning outcomes

## PRESENTERS' BACKGROUNDS

Ashlee Pearson is a Lecturer in the School of Computer Science coordinating a large first year introduction to programming unit. Her research focuses on critical thinking skills, curriculum mapping and diversity and inclusion in engineering.

David Lowe is a Professor of Software Engineering in the School of Computer Science. His research focuses on teaching of professional practice and student responses to this teaching, as well as laboratory-based learning.