



# QS

## Quantitative Skills in Science Curriculum models for the future

Australian Learning and Teaching Council (ALTC)  
Priority Project 2010-2012

### Overview

Numerous national and international reports have recently called for urgent actions to address the deteriorating quantitative skills (QS) and confidence of students. This is particularly true in science, where QS are essential for graduate preparedness. Addressing the broad decline in QS will require substantial changes to science curricula.



### Outcomes

- 1 Curriculum Structures:** International benchmarking of undergraduate science curriculum structures that integrate QS
- 2 Model for Curricula Change in Higher Education:** Curriculum change processes, at the institution level, highlighting four phases: need for change, vision for change, implementation and evaluation
- 3 Framework for Academic Change:** A framework for academics to collaborate across disciplines to adapt/adopt and evaluate educational approaches/resources
- 4 High Profile Dissemination Activities:** An international symposium in 2012, an edited book, and the development of an interdisciplinary Australian 'QS in Science' network

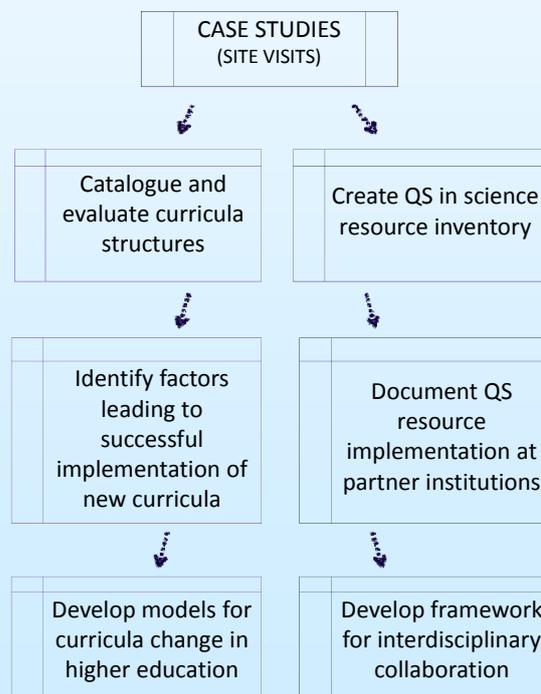
### The Project

The movement to transform science education, to reflect the interdisciplinary and quantitative nature of modern science, requires a 'whole of program' approach with QS as an essential component.

This project will promote and support strategic change in higher education for the enhancement of learning and teaching in the disciplines of science and mathematics by articulating contemporary undergraduate science curriculum models that are innovative and future-looking - meeting the needs of students and industry.



### Achieving the outcomes



### Get involved

- Be a case study, we'll visit your institution
- Case studies for approaches that build the QS of undergraduate science students
- We will document the case study, and offer you the possibility of co-authoring a book chapter, and an invitation to the QS in Science symposium (Brisbane, Australia in 2012)



### Project Team

The project brings together an international team from the cross-disciplinary areas of mathematics, science and education.

University of Queensland: Kelly Matthews and Peter Adams

University of Western Sydney: Carmel Coady and Leanne Rylands

James Cook University: Shaun Belward

University of Central Lancashire: Vicki Tariq

University of Maryland: Kaci Thompson

Purdue: Nancy Pelaez



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