

Engineering eLearning

About the Engineering eLearning **Project** <http://swinburne.edu.au/engineering/elearning>

About the Engineering eLearning **Products** <http://challengengineering.com>

About the Engineering eLearning Project

<http://swinburne.edu.au/engineering/elearning>

- Associate Degree in Engineering - 'Building Better Pathways to Higher Education'
- Swinburne's inter-sectoral expertise; Associate Degree in Engineering jointly provided by
 - Higher Education Division - Faculty of Engineering and Industrial Sciences
 - TAFE - School of Engineering
- eLearning Project
 - Project History
 - Application for funding from the Diversity and Structural Adjustment Fund jointly prepared by:
 - Higher Ed. (John Wilson, Dean FEIS)
 - TAFE (Genevieve Kelly, SoETT Director of Learning)
 - Funds allocated to support the Associate Degree in Engineering with a project to exploit eLearning resources and blended learning strategies.
 - Reference group formed (Higher Ed. and TAFE)
 - Project Manager and eLearning Specialist appointed (Rosy Borland and Douglas Siviter) both acting as analyst-developers.
 - Project Outcomes
 - Enhanced teaching and learning for the units on the Associate Degree in Engineering
 - Large catalogued repository of easily accessible eLearning resources for Engineering education.
 - Community of practice engaged in professional development supported by an online course in 'Teaching with eLearning'

About the Engineering eLearning Products

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➤ Enhanced teaching and learning for the units on the Associate Degree in Engineering

- Project Strategy
 - eLearning = **enhanced** Learning
 - 'Engineering eLearning', i.e., engineering discipline applied to the process of designing enhanced learning (stakeholder involvement, requirements analysis, iterative refinement, exploiting educational research, etc) <http://challengengineering.com/site/engine1>
- Diverse examples of staff exploiting eLearning resources within a blended learning context.
 - Small illustrative example – a resource-based lesson delivered in Blackboard <http://challengengineering.com/site/howtouse/index.html#Example>
 - Larger example – resources to support a 'flipped classroom' strategy for an entire unit. <http://challengengineering.com/catalog/foundation-maths>
- Improved documentation (competencies checklists, assessment guides, etc) derived from efforts to improve alignment of learning outcomes, assessments, and teaching and learning activities.

➤ Large catalogued repository of easily accessible eLearning resources for Engineering education

- Example Resources:- from Samples Gallery <http://challengengineering.com/site/elresources/gallery.html>
- Features summary:-
 - A large collection of eLearning resources for studies in Engineering. (> 1,500 resources)
 - Designed to enable and support educational innovations from staff and students.
 - Highly focussed coverage in Engineering; shorter time required to find relevant resources.
 - The eLearning resources are diverse pedagogically and diverse technologically.
 - The eLearning resources are easy to access, and easy to exploit; underlying technology has been tamed; all resources are accessed via simple web-links.
 - Assembled mostly from world wide open source developments (typically 'creative commons')
 - Now hosted reliably and durably on Swinburne servers.
- Features in detail:- see <http://challengengineering.com/index.html#FeaturesDetail>
- Catalogue Overview:- from Catalogue User Guide http://challengengineering.com/site/elresources/Challengengineering-Catalogue_User-Guide.pdf

➤ Community of practice engaged in professional development

<http://challengengineering.com/teachwel>

- Community of practice engaged in exploring ways of using online resources to support enhanced learning and teaching strategies.
- Supported during the project by face-to-face consultations and workshops
- Ongoing support via an online course on 'Teaching with eLearning'. Directly supports VET staff working on unit of competency TAEDEL501A 'Facilitate eLearning' (part of the TAE10 - Training and Education Training package)
- Supported by the easily accessible eLearning resources located on the Challengengineering web site.