

Master Class - Indigenous engineering, a pathway to reconciliation/Intercultural competence?

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BACKGROUND

As a result of social, political and legislative progress in Australia, the need for the engineering profession to engage with Indigenous Australia has never been more pressing. With Indigenous enrolments in Engineering at very low levels, Australian Engineering Schools and faculties must support this engagement by ensuring that non-indigenous students have some awareness of Indigenous Australian worldviews and their relevance for engineering practice. This master class is part of an Office of Learning and Teaching (OLT) project addressing ways to integrate Australian Indigenous perspectives and engineering knowledge into general engineering education programs.

In the spirit of collaboration, the Master Class will share resources developed thus far; engage participants in exploring use and/or adaptation of project materials as part of their own journey of *learning for the future*; challenge participants to suggest how they might use the resources, and supporting research, in their own work to reduce barriers inhibiting their integration into engineering education; assist in understanding such concepts as environmental sustainability across a range of engineering disciplines. Ideas developed in the master class will be collated and shared with participants as part of the process of communicating the goals of the OLT project.

TARGET AUDIENCE

Engineering educators interested in expanding their repertoire of resources to include interesting/unexpected information about Indigenous approaches to solving familiar engineering problems.

METHOD

The Master Class will use a 'world café' style interactive discussion to draw out concerns, observations and creative ideas about relevant skills for engineers. As the OLT project is specifically concerned with increasing awareness of Australian Indigenous worldviews and their relevance to engineering we will align our processes to some Indigenous beliefs and principles to demonstrate how we envisage the materials being used. The Master Class will, so far as it can, model both the content and the processes documented in the materials and resources.

INTENDED LEARNING OUTCOMES

Participants in this class will develop:

- Deeper understanding of how familiar tenets of engineering knowledge were active in Australia Indigenous relationships with the land, and their relevance for engineering today.
- Awareness of Indigenous engineering both pre- and post-colonisation.
- Awareness of new ways of addressing basic engineering tenets in the curriculum

PRESENTERS

Dr Elysebeth Leigh is a professional educator who works with adult students in business and academic contexts. She works in multicultural contexts including Russia, Finland, India and Romania. Prof. Les Dawes is an executive member of the AAEE and Associate Editor of the Australian Journal of Engineering Education (AJEE)

Dr. Juliana Kaya Prpic is a lecturer in the Engineering Learning Unit at the University of Melbourne. Her subjects concern Leading in a Complex World and Sustainability in Developing Countries.

Dr Tom Goldfinch is a lecturer in Engineering Education at the University of Wollongong. His key research and work are in engineering mechanics education, and social and cultural aspects of engineering education and practice.
