

IN THIS ISSUE . . .

- *New degree apprenticeship MoU*
- *“There’s a real appetite for change”:
producing work-ready graduates*
- *Education links case study: Growing
Relationships with Māori Learners*

FROM THE CHAIR . . .

IN 2017, ENGINEERING E2E funded research that considered micro-credentials as a model for engineering education. This work led to eight feasibility studies – this month, we have funded three pilot projects and plan to fund two more before Christmas.

The Institute of Public Works Engineering Australasia NZ Division has been funded to pilot micro-credentials that demonstrate the development of distinct competencies aligned with the range of activities and roles in public works engineering.

Otago Polytechnic’s pilot will involve the development and delivery of micro-credentials that allow candidates to demonstrate the attainment of the attributes required of New Zealand Diploma in Engineering (NZDE) graduates.

Unitec will develop and deliver five, three-credit micro-credentials recognising knowledge and capabilities in the design, construction and maintenance of urban roads.

I congratulate these organisations on their willingness to try a new approach. It’s my hope that micro-credentials will provide students and employers with better information, support the mixing and matching of courses, give tertiary education organisations more flexibility and encourage innovation. I look forward to announcing the next two pilots.

Sir Neville Jordan
Chair, Engineering e2e Steering Group



WelTec chief executive Chris Gosling, IPWEA NZ president Samantha Gain and Otago Polytechnic head of college – engineering, construction and living sciences Richard Nyhof sign the MoU.

New degree apprenticeship MoU

A new MoU formalises collaboration between three organisations for the delivery of the new Bachelor of Engineering Technology degree apprenticeship in Asset Management that will be piloted next year.

The official signing of the MoU between WelTec, Otago Polytechnic and the Institute of Public Works Engineers Australasia NZ Division (IPWEA NZ), took place on 5 November at the NAMS (New Zealand Asset Management Support) conference held in Wellington. Sir Neville Jordan, Chair of the Engineering e2e Steering Group spoke on the importance of the project to the 130+ audience and introduced the signatories to the agreement.

The conference attracted asset managers from councils and major engineering firms across New Zealand and was opened by the Hon. Shane Jones, the minister for regional economic development. This year there was strong emphasis on preparing for the future and the skills shortage in asset management. It is projected that up to 30% of asset managers could reach retirement in the next ten years. It is well known that engineers, particularly at levels 6 and 7, with hands-on experience are in short supply in New Zealand and worldwide.

The degree apprenticeship in asset management is designed to explicitly deal with this skills shortfall and, due to the fact that it will be industry based, is expected to deliver industry trained level 7 engineers within a relatively short period of time. Chair of the industry reference group for the degree, Jonathan Morris (WSP-Opus) presented a paper on the development of the degree, which provoked substantial discussion.

“There’s a real appetite for change”

A new employer-educator and cross-provider collaboration which aims to produce work-ready graduates and raise the visibility of the New Zealand Diploma in Engineering (NZDE) and Bachelor of Engineering Technology (BEngTech) is gaining momentum.

In September, small groups of ITPs (institutes of technology and polytechnics) and employer representatives met at workshops in Auckland, Christchurch and Wellington.

They discussed a draft Good Practice Guide – developed as part of the Making Engineering Education More Relevant project – and were enthusiastic about collaborating to improving the quality of teaching and learning in their programmes.

“There’s a real appetite for change,” says Project Lead Dr Michael Edmonds, “The project has the potential to make a real difference in raising the visibility of the NZDE and BEngTech qualifications.”

The project, which grew from an Engineering e2e employer workshop in 2015, is focused on employer-educator and cross-provider collaboration to produce work-ready graduates with the capabilities valued by industry. A key aspect of the project is to make resource development more efficient, with the 16 providers

sharing examples of effective practice and developing shared teaching resources.

The next stage is programme redesign, with providers looking at their programme and considering which changes to implement. Project results – including a Good Practice Guide and an Engineering Education Practice report – will be presented at the 2019 Joint NZDE/BEngTech Engineering Tutors Forum.

This presentation will share the results of a stocktake of the alignment of ITPs with good practice identified in the guide, and how ITPs are collaborating to make the engineering education system work better.

ITPs will look to implement changes in their programmes from 2019 onwards.

Relevant documents:

- [Talking with Employers report \(2015\)](#)
- [Making Tertiary Studies In Engineering More Relevant report \(2016\)](#)

EDUCATION LINKS CASE STUDY:

Growing Relationships with Māori Learners

While continuing its full-year Year 12-13 Electrotechnology course, this year Ara has introduced shorter block courses and focused on increasing the participation of Māori learners, who are offered engineering courses and the opportunity to enrol in a new Engineering-IT course in 2019.

In this case study, STPP Programme Manager Pete Wilson and Ara Community Engagement Manager Harry Westrup visited schools with a high proportion of Māori students, talking to teachers about the STPP programme and how they could work with individual teachers to support their teaching of Technology, Maths or Science through an engineering context.

See: engineeringe2e.org.nz/casestudy/education/show/96

Other Ara STPP case studies:

- [Electrotechnology course leads students into engineering](#)
- [Electrotechnology programme reaches more students](#)
- [Providing opportunities and facilities](#)
- [Reaching more students through block courses](#)

