ENGINEERING e2e EDUCATION TO EMPLOYMENT 31
NEWSLETTER : MAY 2017

WORK WITH US TO ACHIEVE THE GOVERNMENT GOAL OF INCREASING ENGINEERING GRADUATES BY 500+ PER ANNUM

IN THIS ISSUE ... *we provide updates on some of Engineering e2e's several projects currently underway: our employer communications work and two of our Secondary-Tertiary projects*

IN JANUARY, *we invited Professor Jane Goodyer to submit a proposal for a sponsored degree pilot. Her latest report indicates that employers give "overwhelming support for the idea of an apprenticeship degree." She says that the current preferred occupation for such a degree is that of an asset manager, and that there is an enthusiasm among employers to use this model to address other shortages. The next step in this project will be to develop a degree standard in consultation with employers.*

Dr Greg Frater is currently investigating the possibility of establishing engineering education regional hubs in New Zealand. This project is based on recommendations made in the report 'Creating Engineers – Climbing the Educational Staircase'. In a literature review, Greg's team examined two highly successful hubs – in Austria and in Ireland. Both hubs achieve close coordination and cooperation between various types of independent higher education institutions. Together they are determining and meeting the needs of a wide range of students, communities and enterprises in their regions.

Our lead article outlines an important new project – I hope you'll help us to write plain English definitions of the roles able to be carried out by NZDE, NZDEP and BEngTech graduates.

If you have any comments or questions about our work, please contact us at **engineeringe2e@tec.govt.nz**

SIR NEVILLE JORDAN
Chair, Engineering e2e Steering Group

Initiatives undertaken through the Engineering e2e programme contribute directly to the achievement of the Government's Business Growth Agenda priority of building a more productive and competitive economy.

Can you help us to define engineering roles?

Engineering e2e and the NZ Board for Engineering Diplomas are working on a communications plan which aims to raise engineering employers' awareness of NZDE, NZDEP and BEngTech qualifications.

As part of this work, we'll write plain English definitions of the working roles able to be carried out by NZDE, NZDEP and BEngTech graduates. We'll also publish a graphic representation of the relationship between different engineering qualifications.

To ensure these definitions are both accurate and relevant to industry, we need your input, to provide feedback on the draft definitions as they are developed.

The first draft of these definitions will be exactly that – a first draft. We do not expect everyone to be perfectly happy with them and will ask for feedback to inform a second draft. The Engineering e2e Steering Group will then have the final say on how the definitions will read.

Another key part of this work will be to gain a deeper understanding of the views that employers in small-to-medium-sized engineering firms have of current NZDE, NZDEP and BEngTech graduates. This includes the identification of barriers to, and opportunities for promoting, employment of these graduates.

Please let us know if you'd like to provide feedback via **engineeringe2e@tec.govt.nz** and when the definitions are drafted, we'll send them to you for your comment.

This research will inform a communications and engagement plan which, depending on the need, could be delivered over the next few years. We'll keep you informed of our progress via this newsletter and our website.

If you'd like to know more about the communications plan or have any questions, please get in touch: **engineeringe2e@tec.govt.nz**.

Secondary-Tertiary Pathways Projects – first progress reports

Engineering e2e is funding six collaborative initiatives between secondary and tertiary institutions to deliver programmes to prepare and pathway students into tertiary engineering study. The first progress reports from these projects were received late last month and they're all off to a good start. Here we report on our projects at NorthTec and Unitec.

BUILDING KNOWLEDGE AND AWARENESS THROUGH WORKSHOPS AND PRESENTATIONS

NorthTec has been focusing on raising awareness about engineering study, career options and future pathways.

Relationships have been built across industry and 15 schools in Northland, including smaller regional schools and kura. Systems have been set up to capture student details and evaluate the effectiveness of this project.

Seventy students attended the Introduction to Engineering workshops during Term 1 and their feedback is encouraging:

- 91% indicated that they now have a better idea of what engineering study looks like
- 86% indicated they are aware of the entry requirements
- 70% of the girls (strongly) agreed that engineering study seems doable – an encouraging result.

The NorthTec team also made a presentation to 30 school careers advisors to increase awareness of the project, engineering study options and associated careers. Useful feedback was received and two new school workshops are now planned.

Local industry is supporting NorthTec's project by providing guest speakers and also hosting teachers for professional development.

'Kyah Suckling, Stella-Marie Baker, Rebecca Froggatt, Jemima Moncrieff and Alina Maltsevn at the engineering information day held at NorthTec'
This NorthTec workshop for five Northland schools on 3 March received an excellent write-up at **www.stuff.co.nz/auckland/local-news/northland/90132972/school-students-get-a-taste-of-engineering-world**

BRIDGING THE SECONDARY/ TERTIARY/EMPLOYMENT DIVIDE

As part of their project, Unitec staff and secondary teachers are team-teaching a variety of Unitec learning areas. Students are, for example, using trigonometry to calculate distances and heights, discovering the mapping and mathematics involved in surveying and GIS, considering social and environmental impacts, and visiting engineering sites.

The initiative is already showing great benefits for all groups involved – the students, the secondary and tertiary teachers, and employers.

Most school teachers involved in the project are Maths or Science specialists. Since beginning the project, their understanding of engineering pathways has improved from a rating of 6/10 to almost 8/10.

Unitec's engineering staff are also finding the experience worthwhile, reporting that the project has an improved teaching skills and provided an opportunity to forge new connections with industry, while employers involved in the project report improved understanding of the NZDE and BEngTech and enjoy the chance to meet potential employees.

Students, teachers and engineering staff have joined a Facebook group which includes working engineers, including one based in the UK.

Unitec has also asked graduate engineers to share with teachers their experiences in Maths and Physics in school, their tertiary learning and their experience as engineers.

Reports from our other Secondary-Tertiary Projects will feature in future Newsletters.

IF YOU HAVE ANY ENQUIRIES, PLEASE CONTACT US: ENGINEERING E2E PROGRAMME TEAM
Tertiary Education Commission Te Amorangi Mātauranga Matua
Phone 04 462 5392 Email engineeringe2e@tec.govt.nz
www.engineeringe2e.org.nz