

The Secondary-Tertiary Pathways Projects

Engineering e2e is funding six collaborative initiatives between secondary and tertiary institutions to deliver programmes to prepare and pathway students into tertiary engineering study.

Engaging girls with engineering

Following a 2017 engineering event for all Year 9 Queen's



High School students, Otago Polytechnic decided to focus on engaging girls with engineering. The students returned this year for a science lesson in an engineering context and learnt more about engineering study and careers.

A new research project is looking at girls' attitudes to engineering and whether the school environment makes a difference in terms of awareness and interest.

Otago Polytechnic is also creating a series of resources – engineering modules that can be taught in NCEA Maths, Science or Technology classes – to be shared with other tertiary institutions.

WITT's NZDE course for students

The Western Institute of Technology at Taranaki



launched its Engineering Fundamentals programme in 2017. Year 13 students can study towards the NZDE Engineering Fundamentals paper for half a day a week within school time and achieve NCEA credits. Students completing the programme can apply for one of WITT's new scholarships for enrolment in their NZDE. The programme continues this year, with WITT staff looking at it as a sustainable model in the future for inspiring and supporting students to progress into the NZDE.

Block courses to reach more students

In 2016, Ara Institute of Canterbury staff



delivered Electrotechnology programmes to Year 12-13 Papanui High School students. The initiative extended the following year to include Christchurch Boys' High School and a multi-school programme.



2018 students enjoy a Unitec trip to Warkworth Observatory

The whole-year multi-school programme continues this year and Ara has introduced shorter block courses which can be tailored for Year 9-13 students. The five-to-seven-week courses allow the institution to reach more students and include a wider range of engineering knowledge and skills than the Electrotechnology courses.

Education/industry collaboration

Unitec has dropped last year's Year 12 three-term



programme in favour of block courses for Year 9-12 students. Each of the five three-day courses is designed by a team comprised of two teachers from one of the partner secondary schools, an engineering lecturer and a representative from a local engineering employer.

Each company involved organises a visit to their workplace and students then work on team projects in which they come up with a solution to an issue selected by that company.

NorthTec's Year 13 Engineering Fundamentals programme

This year, NorthTec launched a Year 13 Engineering Fundamentals programme



– students work towards achieving the New Zealand Diploma in Engineering's Engineering Fundamentals paper and NCEA Level 3 Physics achievement standards.

NorthTec continues to work on creating relationships with local teachers and careers advisors to highlight the opportunities with an engineering career and building links with local engineering employers.

Promoting a design thinking approach

Wintec trialled



a Design Thinking for Educators and Students course in 2017 and plans to repeat the initiative this year.

The Year 12-13 Integrated Engineering programme is now in its third year, with students from four schools attending one of the three courses two days a week. Course content is similar to last year's, with Wintec staff looking to introduce more design thinking aspects to students.

FIND OUT MORE...

For the latest on all Engineering e2e initiative, see www.engineeringe2e.org.nz/our-progress