

## **NATIONAL ENGINEERING EDUCATION PLAN PROJECT**

### **SUMMARY FROM CONSULTATION MEETINGS SEPTEMBER 2009**

#### **A UNIFIED DIPLOMA SYSTEM**

##### **The proposed name**

The NZDE name shows consistency and links both the theoretical and applied diplomas enabling them to be marketed as a package. The name builds on the NZCE brand.

The question was asked if there is a better name for the NZDE (Applied) (Discipline). A possibility is the Diploma of Engineering Practice (Discipline).

##### **Qualification structures**

Students may study the NZDE and NZDE (Applied) at the same time. Institutes of Technology and Polytechnics (ITPs) and Industry Training Organisations (ITOs) may claim their respective funding (EFTs and STMs) providing the funding totals no more than one full-time equivalent (FTE).

The NZDE is the theoretical diploma and is for the school leaver who meets the entry requirements at the end of Year 12 secondary schooling; the international student; and a person in work who meets the entry criteria and wishes to study part-time. The NZDE would be internationally recognised if it receives Dublin Accord accreditation.

When graduates enter the workplace, their employers may sponsor them through the NZDE (Applied) which is about application of knowledge to the workplace. If the graduates are already in work, they would receive credit for their work experience. If there is a legislative requirement for registration in a sector then registration can be a compulsory part of the NZDE (Applied).

On successful completion of the NZDE (Applied), graduates attain Associate Membership of IPENZ (AIPENZ). The first 60 credits focus on particular competencies. The last 60 credits are a holistic assessment of competencies to meet the AIPENZ criteria. A graduate does not have to give up the NZDE to complete the NZDE (Applied).

Professional registration or AIPENZ is achievable in four years on average – two years of study for the NZDE (240 credits) and two years part-time study for the NZDE (Applied) (120 credits). In comparison professional registration after completion of the three-year, 360 credit Bachelor of Engineering Technology (BEngTech) full-time is likely to take a further four years.

##### **Delivery of the NZDE**

The aim of the ITPs offering the NZDE is to offer full-time, part-time, block courses and flexible learning. The ITPs are committed to collaboration because engineering is an expensive programme to offer and economies of scale are likely to be achieved through collaboration. Not all providers can provide all disciplines and specialisations so discussions will occur between the providers about a sensible network of provision.

##### **Assessment models for the NZDE**

Providers and some industry representatives prefer achievement-based assessment with grading on a 10 point scale. The NZDE is an academic qualification. If students wish to move into three and four-year degrees, articulation arrangements are straightforward because grading systems are used in these academic qualifications.

However, universities and ITPs are used to competency-based assessment because school leavers enter with NCEA which is competency-based. Some industry representatives have more confidence in the knowledge and skills of an applicant who is assessed for their competence rather than an applicant who presents grades to them.

### **Articulation to other engineering qualifications**

Providers will arrange articulation for people with trades qualifications who wish to study the NZDE through recognition of prior learning.

Similarly, there will be articulation arrangements for NZDE graduates moving into the three and four-year degrees. It is becoming more difficult for a diploma graduate to enter the second year of a four-year degree because more engineering content is being pushed into the first year of the degree. In addition, a higher level of mathematics is required for both the three and four-year degrees.

The diploma, BEngTech and BE degrees should have equal status because they are standalone qualifications with different entry requirements and distinct career pathways. In reality only a few students progress from the diploma to the BEngTech and BE degrees.

### **Governance Structure**

It is intended that a Memorandum of Understanding will be set up between the industry, ITP and ITO representatives on the Governance Group to enable the Group to become the standard setting body for the NZDE and NZDE (Applied).

The representatives on the Governance Group must have a strong vision, they must take a strategic view not the view of one industry and they must collaborate. It should not be necessary to enlarge the proposed number of members.

### **Industry Advisory Groups**

Three industry advisory groups are proposed – one each for civil, electrical and mechanical. These groups may be expanded as new strands are added to the NZDE and NZDE (Applied) in the future.

### **Quality Assurance**

The Quality Assurance Group ensures there is consistency across the disciplines, substantial equivalence of the programmes between the providers, and papers are moderated on a revolving basis.

Quality must be maintained if the NZDE is to meet the requirements of the Dublin Accord and be internationally recognised. New Zealand and the United States are provisional signatories to the Dublin Accord. Full signatories are Canada, Ireland, South Africa and the United Kingdom.

### **General comments**

Australia has a different environment from New Zealand in technician education. Some qualifications are university-based, some are vocationally-based. Australia has not considered joining the Dublin Accord yet.

The redeveloped diploma model is similar to models used in other Dublin Accord countries. New Zealand is ahead with the proposed NZDE (Applied).

**IPENZ is working with the Ministry of Education as part of the National Engineering Education Plan Project to develop clear career pathways into engineering from the Technology Curriculum in senior secondary school.**

**Participants at the meetings would like to move forward with the unified diploma system. It is important to get the detail right for the national structure to be in place for 2011.**