



You will learn how to:

- Competently perform technical operations to the standards, ethical and professional responsibilities required by the engineering profession. As per the Dublin Accord 2002.
- Work collaboratively within team environments to provide a comprehensive engineering service in the relevant specialist area
- Apply the principles of the Treaty of Waitangi, the Resource Management Act and Health & Safety in Employment Act while carrying out engineering activities.

Civil Engineering strand graduates will also be able to:

- apply engineering theory to practice working within *well-defined* engineering problems* relevant to their specialist field of civil engineering
 - use their engineering knowledge to make informed problem solving decisions in civil engineering and to implement these decisions
 - identify, evaluate and manage risks within *well-defined* engineering problems* relevant to their field of civil engineering
- **Well-defined engineering problems* can be solved in standardised ways, are frequently encountered and hence familiar to most practitioners in the specialist area, have consequences that are locally important but not far-reaching and can be resolved using limited theoretical knowledge but normally require extensive practical knowledge.

Career Options: The NZDE (Civil) prepares a student for a career in the civil engineering industry at technician level. Civil engineers plan, design and construct the infrastructure in which we live and work. This includes the establishment of facilities like roads, railways, airports, water supply, drainage, wastewater disposal, bridges, dams, multi-storey buildings, tunnels and other public works. Civil engineers are employed by a range of different organizations including district and city councils, engineering consultants, contractors, transportation agencies such as NZ Transport Agency, academic institutions, environmental agencies etc.

Civil engineering technicians handle the technical details for building and maintaining infrastructure projects - such as roads, bridges, tunnels, buildings, and waste water systems. They may work with a civil engineering consultancy, a civil construction contractor or a council. The Civil Engineering Technician may work in a number of roles such as Contract Manager, Laboratory Technician, Design Draughtsperson, Site Investigator, Surveying, Asset Management and Engineering Administration.

Programme Information

| Course Code | Course Title | Purpose |
|-------------|---------------------------|--|
| DEC4.101w | Engineering Fundamentals | Students learn the basic fundamentals of a range of engineering disciplines. |
| DEC4.102w | Engineering Mathematics 1 | Students learn mathematical skills, concepts and understandings in order to perform calculations and solve problems within engineering contexts. |
| DEC4.103w | Technical Literacy | Students develop technical research skills along with oral, written, graphical and interpersonal communication skills. |



New Zealand Diploma in Engineering (Civil) (TK1019) Level 6

| Course Code | Course Title | Purpose |
|-------------|------------------------------|--|
| DEC4.201w | Materials (Civil) | To introduce the fundamentals of geological and geomorphological processes and the properties and application of a range of civil engineering materials. |
| DEC4.202w | Land Surveying 1 | To understand and apply the theoretical and practical concepts of Land Surveying. |
| DEC5.201w | Structures 1 | To analyse structural elements and simple structures, and to design simple beams. |
| DEC5.202w | Civil and Structural Drawing | To develop skills required to produce civil engineering and structural drawings. |
| DEC5.203w | Hydraulics (Civil) | To introduce the principles of fluid mechanics and apply them in civil engineering hydraulic applications. |
| DEC5.204w | Highway Engineering 1 | To introduce the fundamentals of road materials, road construction practices and road maintenance techniques, as well as the principles of drainage design. |
| DEC5.205w | Engineering Surveying | To develop further knowledge and understanding of surveying with specific reference to engineering applications. |
| DEC5.206w | Structures 2 | To develop further knowledge of structural analysis and structural design. |
| DEC5.207w | Geotechnical Engineering 1 | To introduce the fundamentals of soil composition, the engineering properties of soils, and site investigation procedures. |
| DEC6.101w | Engineering Management | Students develop the knowledge and skills required to administer and manage projects efficiently in a specific discipline of engineering. |
| DEC6.102w | Engineering Project | Students determine and apply the processes required to analyse mechanical engineering design problems and identify possible solutions. |
| DEC6.201w | Geotechnical Engineering 2 | To develop further knowledge of the principles and practice of geotechnical engineering. |
| DEC6.202w | Highway Engineering 2 | To develop knowledge of road design, roading project evaluations and maintenance management. |
| DEC6.203w | Traffic Engineering | To introduce traffic engineering concepts and fundamentals. |
| DEC6.204w | Structures 3 | To develop analytical and evaluation skills for use in structural analysis and design. |
| DEC6.205w | Water and Wastewater Systems | To evaluate the requirements of, and design water, waste water and storm water reticulation systems. |
| DEC6.206w | Water and Waste Management | To develop knowledge and understanding of drinking water quality control parameters and treatment methods, and of current and emerging treatment technologies for liquid and solid wastes. |

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| Course Code | Course Title | Purpose |
|-------------|------------------|---|
| DEC6.207w | Land Surveying 2 | To develop further land surveying knowledge and skills. |

Programme Fees and Additional Expenses

Programme Fees

Domestic \$755 per course (approx.)

International \$21,000 (Year 1)

Additional Expenses

To be advised