

NZ Diploma in Engineering (Civil)

Course Purposes

DEC4.101	ENGINEERING FUNDAMENTALS
Level 4 Pre-req Nil Co-req Nil	To introduce the basic fundamentals of a range of engineering disciplines.
DEC4.102	ENGINEERING MATHEMATICS 1
Level 4 Pre-req Nil Co-req Nil	To develop mathematical skills, concepts and understandings in order to perform calculations and solve problems within engineering contexts.
DEC4.103	TECHNICAL LITERACY
Level 4 Pre-req Nil Co-req Nil	To develop technical research skills along with oral, written, graphical and interpersonal communication skills.
DEC4.201	MATERIALS (CIVIL)
Level 4 Pre-req Nil Co-req Nil	To introduce the fundamentals of geological and geomorphological processes, and the properties and application of a range of civil engineering materials.
DEC4.202	LAND SURVEYING 1
Level 4 Pre-req Nil Co-req Nil	To understand and apply the theoretical and practical concepts of Land Surveying.
DEC5.201	STRUCTURES 1
Level 5 Pre-req DEC4.101 Co-req Nil	To analyse structural elements and simple structures, and to design simple beams.
DEC5.202	CIVIL AND STRUCTURAL DRAWING
Level 5 Pre-req DEC4.103 Co-req Nil	To develop skills required to produce civil engineering and structural drawings, using computer aided draughting (CAD) skills and techniques to recognised standards
DEC5.203	HYDRAULICS (CIVIL)
Level 5 Pre-req Nil Co-req DEC4.101 DEC4.102	To introduce the principles of fluid mechanics and apply them in civil engineering hydraulic applications.
DEC5.204	HIGHWAY ENGINEERING 1
Level 5 Pre-req DEC5.207 DEC4.102 DEC4.201 Co-req Nil	To introduce the fundamentals of road materials, road construction practices and road maintenance techniques, as well as the principles of road drainage design.
DEC5.205	ENGINEERING SURVEYING
Level 5 Pre-req DEC4.202 Co-req Nil	To develop further knowledge and understanding of surveying with specific reference to engineering applications.
DEC5.206	STRUCTURES 2
Level 5 Pre-req DEC5.201 Co-req DEC4.102	To develop further knowledge of structural analysis and structural design.
DEC5.207	GEOTECHNICAL ENGINEERING 1
Level 5 Pre-req Nil Co-req Nil	To introduce the fundamentals of soil composition, the engineering properties of soils, and site investigation procedures.
DEC6.101	ENGINEERING MANAGEMENT
Level 6 Pre-req Min of 105 Credits from NZDE Co-req Nil	To develop the knowledge and skills required to administer and manage projects effectively in a specific discipline of engineering.
DEC6.102	ENGINEERING PROJECT (CIVIL)
Level 6 Pre-req DEC4.103, DEC4.201, DEC5.207 Min 45 credits at Level 5	To apply knowledge and problem-solving skills to plan and complete an engineering project relevant to the discipline strand studied (civil) to accepted practice and standards from a given specification.

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DEC6.201	GEOTECHNICAL ENGINEERING 2
Level 6 Pre-req DE5.207 Co-req Nil	To develop further knowledge of the principles and practice of geotechnical engineering.
DEC6.202	HIGHWAY ENGINEERING 2
Level 6 Pre-req DEC5.204 Co-req Nil	To develop knowledge of road design, roading project evaluations and maintenance management.
DEC6.203	TRAFFIC ENGINEERING
Level 6 Pre-req Nil Co-req DEC4.102	To introduce traffic engineering concepts and fundamentals.
DEC6.205	WATER AND WASTEWATER SYSTEMS
Level 6 Pre-req DE5.203 Co-req Nil	To evaluate the requirements of, and design water, waste water and storm water reticulation systems.
DEC6.206	WATER AND WASTE MANAGEMENT
Level 6 Pre-req Nil Co-req Nil	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.