

1 PROGRAMME DETAILS

1.1 Programme title

New Zealand Diploma in Engineering (Civil)

1.2 Programme code

TK0222

1.3 Level of programme

6

1.4 Effective date

These Programme Regulations are effective from March 2008.

2 PROGRAMME AIMS AND OBJECTIVES

2.1 Programme aims

The aim of the New Zealand Diploma in Engineering (Civil) programme is to provide the engineering profession with skilled and competent civil engineering technicians. These technicians will possess skills that will enable them to apply engineering theory to practice and competently perform technical operations to the ethical and professional standards required by the engineering profession.

2.2 Graduate profile

By the end of this programme graduates will have developed:

- The competence to apply technical and conceptual knowledge appropriate to their qualification;
- The self reliance and motivation for ongoing learning and professional development;
- Capabilities to be effective communicators and team leaders;
- A broad educational base to enable them to relate to the wider context of society;
- Inquiring, flexible, creative and critical attitudes towards contemporary issues and underlying theoretical concepts;
- An appreciation of management and information technology within the context of their qualification.

3 PROGRAMME STRUCTURE

3.1 Schedule of courses offered - Table I

COURSE CODE	COURSE TITLE	LEVEL	WITT CREDITS	PREREQUISITES	C OR E
Level 3					
DCE3.358	Mechanics	3	12	-	C
Level 4					
DCE4.450	Engineering Mathematics 1A	4	9	-	C
DCE4.451	Engineering Mathematics 1B	4	9	-	C
DCE4.454	Hydraulics/Hydrology	4	9	-	C
DCE4.452	Land Surveying	4	9	-	C
DCE4.456	Geotechnical Engineering 1	4	9	-	C
DCE4.457	Engineering Materials	4	9	-	C
DCE4.558	Structures 1	4	9	DCE3.358	C
DCE4.459	Geology	4	9	-	C
Level 5					
DCE5.552	Civil Drawing	5	12	-	C
DCE5.553	Structural Drawing	5	12	**CID4.103-	C
And a minimum of 36 credits from the following elective courses #					
DCE5.505	Engineering Geology	5	12	DCE4.459	E
DCE5.506	Fluid Mechanics	5	12	DCE4.454	E
DCE5.550	Engineering Mathematics 2A	5	12 ²	DCE4.450	E
DCE5.558	Engineering Mathematics 2B	5	12 ²	DCE4.451	E
DCE5.556	Engineering Surveying	5	12	DCE4.452	E
DCE5.554	Geotechnical Engineering 2	5	12	DCE4.456 & DCE3.358	E
DCE5.655	Structures 2	5	12	DCE4.558	E
DCE5.557	Traffic & Highway Engineering	5	12	DCE5.552	E
Level 6					
DCE6.651	Contract Administration	6	12	-	C
DCE6.652	Construction Practices	6	12	-	C
And a minimum of 54 credits from the following elective courses #					
DCE6.605	Public Health: Water	6	18	DCE5.506	E
DCE6.606	Public Health: Waste	6	18		E
DCE6.753	Structural Design A	6	18	DCE5.655	E
DCE6.754	Structural Design B	6	18	DCE5.655	E
DCE6.656	Traffic Engineering	6	18	DCE5.557	E
DCE6.657	Road Design & Maintenance	6	18	DCE5.557	E
TOTAL REQUIRED CREDITS			240*		

C = Compulsory courses; E=Electives

Note: not all electives will be offered in any one year.

* In addition to the minimum 36 and 54 credits specified for electives, students must achieve a further 18 credits from either list of electives in order to reach the total 240 credits for this programme.

** Structural Drawing requires students to have pre-requisite CAD skills sufficient to complete assignment work. A student should complete CID4.103 Engineering Drawing and Design or similar CAD training or present evidence (e.g. portfolio of work, work place testimonial) to show they have the necessary CAD skills.

1. It is recommended that DCE5.550, DCE5.558 and DCE5.655 be selected by students who intend to undertake degree level study at university in the discipline of civil engineering.
2. Students may choose to study both DCE5.550 and DCE5.558 but having successfully completed both courses will only be awarded 12 credits towards the diploma.

3.2 Programme length

This is a two-year, full-time programme of study, or equivalent part time.

3.3 Programme delivery

3.3.1 Semester basis

All the courses are delivered on a semester basis as far as possible in accordance with the semester schedule proposed by the Consortium of Polytechnics.

Semesters are approximately 19 weeks duration, of which the last two weeks are scheduled for examinations.

Semesters commence mid-February and mid-July.

3.3.2 Part-time model

The programme is delivered using a mixed mode format comprising contact sessions called **study blocks**, and structured **self-directed study**.

The self-directed study component is undertaken in the student's own time with the aid of a comprehensive set of course notes and a proposed work programme. Interaction with the course presenter as and when required (via e-mail or telephone) is encouraged.

The duration of the **study blocks** varies depending on the credit rating and the nature of individual courses. Typical duration is five days per course.

This method of delivery enables candidates who cannot attend classes full time to acquire the qualification on a part-time basis. The time for completion on this basis will be determined by the number of courses (subjects) a student completes at any one time, and the number of credits for which he/she qualifies.

A person in full-time employment should be able to study two to three courses per semester. On this basis the programme should be completed in about five years.

3.3.3 Study Block course format

For each course the student goes through the following learning cycle:

1. Start of semester: Student receives a study pack which contains:
 - A **Course Information** booklet outlining the contents of the course, requirements for successful completion, assessment criteria, assignment schedule, and a proposed work programme.
 - The **course notes**, including self-evaluation exercises with answers, for the topics to be completed before the first block.

This enables the student to commence with self-directed study and completion of a set of assignments in preparation for the first study block (**Block 1**).

2. During the first half of the semester, the student attends the first study block (**Block 1**). The following are typical block course activities:
 - Review of topics completed in the self-directed study period leading up to the block
 - Laboratory and practical work as appropriate
 - Controlled assessment (class test)
 - Introduction and overview of remaining topics.
3. The first study block is followed by a period of self-directed study during which the student works through the remaining topics in preparation for the second study block (**Block 2**), and completes set assignments.
4. During the second half of the semester the student attends a second study block course (**Block 2**). The following are typical activities:
 - Review of topics completed in the self-directed study period leading up to the block
 - Laboratory and practical work as appropriate
 - Controlled assessment (class test)
 - Preparation for examination.
5. End of semester: Final examination.

Note: Some courses may vary from this Study Block course format to suit particular course, resource and delivery requirements.

4 REQUIREMENTS FOR AWARD OF QUALIFICATION

4.1 Credit values to be obtained

Students must achieve 240 credits inline with Consortium of Polytechnic requirements to be awarded the New Zealand Diploma in Engineering (Civil). Refer Clause 3.1.

Once admitted to the programme, and subject to limitations on places available, a student may enrol in courses in this programme at any of the institutions accredited to deliver the New Zealand Diploma in Engineering (Civil) administered by the Consortium of Polytechnics.

The student will be awarded the Diploma by the accredited institution at which he/she has been awarded the majority of the Level 5 and 6 credits.

4.2 Attendance criteria

Students are expected to attend all **Study Blocks**. Refer Clause 3.3.

If a student can provide the Programme Manager with evidence that he/she will not be disadvantaged by non-attendance of study block courses, the student may lodge an application with the Programme Manager to be exempted from study block course attendance. If this exemption is approved, the student will be required to sign an *exemption declaration* stating that he/she is aware of, understands the implications of, and accepts responsibility for, non-attendance.

4.3 Off-site practical/workplace components

There are no off-site practical/workplace requirements for this programme.

4.4 Work experience

There is no work experience component in this programme.

4.5 Compulsory and optional courses at each level

Refer to Clause 3.1.

4.6 Time limits for completion of the programme

Ten years, unless otherwise approved by the Programme Manager.

5 ENTRY AND SELECTION CRITERIA

5.1 Entry criteria

In order to be admitted to the programme applicants must meet **either** the normal admission criteria (refer Clause 5.1.1); **or** the special admission criteria (refer Clause 5.1.2); **and** the English Language requirements (refer Clause 5.1.3).

5.1.1 Normal admission criteria

To meet the normal admission requirements applicants must hold, as a minimum, any one of the following qualifications:

(i) **Sixth Form Certificate:** Total grade of 18 or fewer in four best subjects, including:

- (a) Grade 4¹ or better in *mathematics*, **and**
- (b) Grade 4¹ or better in *technical drawing* or in *graphics & design*² which includes a significant technical drawing component.

or

(ii) **NCEA level 2:** A minimum of 48 credits in at least four Level 2 subjects including:

- (a) A minimum of 15¹ credits in *mathematics*³;
- and**
- (b) A minimum of 15¹ credits in *graphics & design*² which includes a significant technical drawing component.

or

(iii) An alternative or overseas qualification that is considered to be the equivalent of any of the above requirements, as approved by the Programme Manager.

- Notes:
1. Applicants who do not meet the specified *mathematics* and/or *technical drawing* criteria may still enter the programme but will have to complete the foundation courses CID2.002 Engineering Mathematics and/or CID2.001 Engineering Drawing & Design.
 2. *Graphics & design* must include a substantial technical drawing component.
 3. NCEA *mathematics* should include standards in *algebra*, *geometry*, *trigonometry* and *calculus* or *statistics*.
 4. In any instance where there is doubt about the applicant's mathematics and/or drawing competency, the Programme Manager reserves the right to set out a prescribed course of study and/or administer an entry level test.

5.1.2 Special admission criteria

Applicants who do not meet the requirements for normal admission may be admitted to the programme if:

- (i) They have attained the age of 20 years on or before the first day of the semester in which the programme is to begin,

or

They have a letter of support from their current employer expressing support of the application and of the student's participation in this programme,

and

- (ii) They can provide evidence of experience or study which, in the opinion of the Programme Manager suggests that the student will succeed on the programme.

Note: The Programme Manager reserves the right to administer an entry level test and/or set out a prescribe course of study.

5.1.3 English language requirements

In addition, the following requirements apply to applicants in both admission categories:

Applicants whose first language is not English, or who come from a country where the language of instruction in schools or other teaching institutions is not English, are required to provide evidence of having met the following minimum English language requirements:

- (i) IELTS: an overall proficiency score of 6.0 (academic version), with no sub-test score lower than 5.5;

or

- (ii) TOEFL 550 together with TWE of 5.0;

or

- (iii) WITT Course Entrance Assessment: Level One pass 225/300;

or

- (iv) Provide evidence of having passed such tests of English language competence as the WITT Academic Board may from time to time approve.

5.2 Selection criteria

Admission to the programme will be in order of receipt of applications by applicants who meet the entry criteria above.

Applicants who seek entry to the programme under Clause 5.1.2 (Special Admission Criteria), may be required to:

- (i) Participate in an interview;

and/or

- (ii) Submit a portfolio;

and/or

- (iii) Supply references;

and/or

- (iv) Produce other supporting documentation.

The Programme Manager will determine the maximum number of students permitted to enrol in the programme.

All enrolments are at the discretion of the Programme Manager, in consultation with other teaching staff or Advisory Committee members as required.

6 ASSESSMENT OF PRIOR LEARNING (APL)

6.1 Provisions for advising prospective applicants

Opportunities for APL are advised through the Programme Brochure and Policy and Procedure Assessment of Prior Learning.

6.2 Provisions for application and consideration

A completed APL application form must be submitted to the institute. The application procedure and pro forma are made available to prospective APL applicants in a separate APL Guidelines booklet.

6.3 Provisions for the award of unspecified credits

There are no provisions for the award of unspecified credits for this programme.

6.4 Schedule of standard or approved credit transfer arrangements

(a) A student transferring from another institution accredited to offer the New Zealand Diploma in Engineering (Civil) will be entitled to apply for credit transfers for all New Zealand Diploma in Engineering (Civil) courses successfully completed at that institution, and will be awarded the qualification subject to the provisions of Clause 4.1.

(b) As a general rule RPL credits are not awarded to Level 6 courses. In exceptional cases the Programme Manager may approve RPL credits for Level 6 courses, but not exceeding a total of 24 credits.

6.4.1 Standard approved credits

Applicants transferring from the NZCE(Civil) to the New Zealand Diploma in Engineering (Civil) will be awarded credits in accordance with the provisions of Table IV.

7 ASSESSMENT REQUIREMENTS

7.1 Basis of assessment

All assessments in this programme are achievement based.

7.2 Requirements for submission of assessed work

Students are informed in writing of assessment requirements, including deadlines for submission of assessed work, at the commencement of each course.

No late submission of coursework assignments will be accepted for marking unless a student has applied a minimum of two days before the due date for an extension and has been granted permission for late submission.

Failure to meet an extended deadline will be construed as a non-submission and a nil mark will be awarded for the work in question.

7.3 Departures from prescribed assessment

Students are able to apply for departures from prescribed assessment methods which may include:

- The provision to complete an assessment in te reo Māori. Refer to Policy and Procedure Assessment in Te Reo Māori.
- Students with disabilities or recognised conditions of impairment may receive assistance during assessment such as a reader/writer. Refer to Policy and Procedure Assistance for Controlled Assessments.
- The granting of an aegrotat pass due to absence from, or impaired performance in, a major item of assessment on medical or compassionate grounds. Refer to Policy and Procedure Assessment.

7.4 Reassessments and resubmissions

7.4.1 Reassessments

Reassessments apply to final examinations only.

There will be no opportunity given for direct reassessment however:

- (a) If a student has completed the coursework requirements for a course and achieved a minimum mark of 40% in it, but has failed the final examination, he/she may elect to carry the coursework grade forward to the next scheduled offering of the course and be re-examined in their final examination.
- (b) The coursework mark may be carried forward and used for ONE final re-examination only per course.
- (c) Any re-examination of the final examination must take place not later than the end of the next scheduled course offering.
- (d) A student who is re-examined in the final examination on this basis must re-enrol for the course, but will be charged an examination fee only.
- (e) Students who carry over their coursework mark on this basis and thereby complete the course successfully will only be awarded the minimum pass mark.

7.4.2 Resubmissions

Resubmissions apply to course work only.

In general there will be no opportunity given for direct resubmissions, where a student fails to achieve the minimum (40%) coursework mark, he/she will be deemed to have failed the course regardless of whether or not he/she sits the examination.

Where a student has failed a course because of "insufficient" coursework (coursework mark <40%), and has achieved an examination mark of 60% or more, he/she may, at the discretion of the Programme Manager, be allowed to carry the examination mark over, ONCE only and re-enrol for the course in the next academic year, or at the next scheduled offering of the course, and submit coursework assignments as determined by the Programme Manager in consultation with the course presenter.

In such cases the student may apply for waiving of study block course attendance in accordance with Clause 4.2.

Students who carry over their examination mark on this basis and thereby complete the course successfully, will only be awarded the minimum pass mark.

7.5 Appeal of assessments

Students may lodge an appeal in accordance with Policy and Procedure Academic Appeals.

7.6 Results

Recording and reporting of results is in accordance with Policy and Procedure Reporting and Certification.

7.6.1 Calculation of final mark and allocation of grades

- (a) The **final** mark in any course is the **coursework** mark and an **examination** mark, combined in a 50:50 ratio or weighting. The specific weighting of the coursework mark components will be detailed in the Course Information sheets.
- (b) To pass a course a student must achieve:
- (i) A **final** mark of 50% or more, **and**
 - (ii) A minimum of 40% both:
 - in the aggregated **coursework** mark, and
 - in the **examination** mark.
- (c) Grades are allocated on the basis of the percentage achieved in the **final** mark in accordance with Table II:

Table II: Course Grades

GRADE	PERCENTAGE	RESULT
A+	90 – 100	Pass
A	85 – 89	Pass
A-	80 – 84	Pass
B+	75 – 79	Pass
B	70 – 74	Pass
B-	65 – 69	Pass
C+	60 – 64	Pass
C	55 – 59	Pass
C-	50 – 54	Pass
D	Refer 7.6.3	Fail
E	Refer 7.6.3	Fail

7.6.2 Additional/Alternative Grades

Students who comply with the criteria listed in table III will be awarded the appropriate grade as specified.

Table III: Alternative Grades

GRADE	MEANING	CRITERIA
CC	Cross Credit	Credit awarded on the basis of credit gained for another qualification at WITT.
CT	Credit Transfer	Credit awarded on the basis of credit gained for another, or the same, qualification at another provider.

GRADE	MEANING	CRITERIA
RPL	Recognition of Prior Learning	Credit awarded on the basis of proven competency acquired through formal or informal prior learning (eg through relevant work experience).
AEG	Aegrotat	Pass awarded to a student whose absence or impaired performance has been the result of illness, injury, bereavement or other personal circumstances as recommended by the Programme Manager. A student may not be awarded more than one AEG pass towards this qualification.
R	Restricted Pass	Restricted pass subject to provisions of Clause 7.6.4.
WD	Withdrawn	The student has formally applied to withdraw from the course prior to the completion of the final assessment.
IC	Insufficient Coursework	(i) Student fails to submit or sit less than 50% of the prescribed assessment events in the course, and has not formally withdrawn from the course. (ii) Student has not officially withdrawn and his/her name still appears on class list.
EXT	Extension	Assessable work incomplete at reporting date and subject to a contract for completion between the student and WITT. An EXT result may be upgraded to a pass grade upon successful completion of an extension contract.
P	Pass	Awarded to students who have completed a course which carries no course work or examination marks.

7.6.3 Allocation of Grades where the 40% Minimum is not Achieved

The term "minimum" in this context refers to the minimum of 40% to be achieved in both the coursework and the examination.

- If **coursework** mark <40%, and student does not sit the examination:
 - NO **final** mark is recorded ⇒ E-grade is allocated.
- If **coursework** mark <40%, and student sits examination:
 - Record all marks, and
 - If calculated **final** mark <40% ⇒ E-grade is allocated;
 - If calculated **final** mark ≥40% ⇒ D-grade is allocated.
- If **coursework** mark ≥40%, and **examination** mark <40%:
 - Record all marks, and
 - If final mark <40% ⇒ E-grade is allocated
 - If final mark ≥40% ⇒ D-grade is allocated

7.6.4 Restricted passes

The Programme Manager may recommend a restricted pass under the following circumstances:

- (i) The course was narrowly failed (ie the student has passed the other courses but failed, by not more than 2%, to achieve the required pass mark in any ONE of the assessment components), and
- (ii) This is the last course required to complete the qualification, and
- (iii) There is ample evidence that marginal failure is compensated by good overall performance in all other courses of the same and higher level (normally demonstrated by an average of at least 60% in these courses).

7.7 Weighting of course work and final examinations to final grades

Refer Clause 7.6.1 (a).

8 HEALTH AND SAFETY

8.1 Requirements and responsibilities

Students must comply with any health and safety requirements for specific courses detailed in the Course Information sheets. This provision is in addition to health and safety requirements for the Institute which are detailed in:

- Programme Handbook/Brochure
- Policy and Procedure Health and Safety
- Policy and Procedure Student Code of Conduct

9 TRANSITION ARRANGEMENTS

9.1 Description of any transition arrangements

Diploma in Engineering (Civil) 2004

Students who were enrolled in the 300-credit Diploma in Engineering (Civil) prior to January 2005, and have not yet fulfilled all the requirements of the qualification, will be automatically accepted into the new 240 credit programme and be awarded that qualification on meeting the requirements of Clause 4.1 and on the following basis:

- (a) Students who have completed **DCE6.650 Professional Practice** (12 credits) may use this course in place of a Level 5 elective towards the 240-credit programme.
- (b) Credit will not be given for the following courses towards the 240-credit structure:
 - DCE2.253 Engineering Drawing (12 credits)
 - DCE2.250 Introductory Mathematics (12 credits)
 - DCE3.303 Engineering Communications (12 credits)

Students Transferring from NZCE (Civil) to the New Zealand Diploma in Engineering (Civil)

Students enrolled in the **NZCE (Civil)** may transfer to the **New Zealand Diploma in Engineering (Civil)** on the following basis:

- (a) Students who have completed subjects only at Level 1 and Level 2 will be considered eligible for entry into the Diploma, but no cross credits will be given.
- (b) Students who have completed subjects at Level 3 or above will be entitled to cross credit these subjects into the Diploma in accordance with the equivalences set out in **Table IV**.
- (c) Students who have enrolled in NZCE and have passed, or have been given exemptions from, **Stage 2 Mechanics** may apply for credit towards:
 - DCE3.358 Mechanics (12 credits).

Table IV: Cross credits from the NZ Certificate in Engineering (Civil)

THIS COURSE IN NZCE(CIVIL)		MAY CROSS-CREDIT TO ...		
CODE	NAME	CODE	NAME	CREDIT
2051	Mechanics	DCE3.358	Mechanics	12
3031	Mathematics Engineering	DCE4.450 DCE4.451	Eng Mathematics 1A Eng Mathematics 1B	9 9
3108	Civil Engineering B	DCE4.452	Land Surveying	9
3107	Civil Engineering A	DCE4.456	Geotechnical Engineering 1	9
3107	Civil Engineering A	DCE4.459	Geology	9
3108	Civil Engineering B	DCE4.454	Hydraulics/Hydrology	9
3109	Civil Engineering C	DCE4.457	Engineering Materials	9
3109	Civil Engineering C	DCE4.558	Structures 1	9
5182	Geology D	DCE5.505	Engineering Geology	12
4140	Civil and structural Drawing	DCE5.552	Civil Drawing	12
4140	Civil and structural Drawing (with approved CAD experience)	DCE5.553	Structural Drawing	12
4141	Soil Mechanics	DCE5.554	Geotechnical Engineering 2	12
4136	Structures	DCE5.555	Intermediate Structures	12
4138	Fluid Mechanics	DCE5.506	Fluid Mechanics	12
4137	Civil Engineering Surveying	DCE5.556	Engineering Surveying	12
5188 6006	Highway Engineering, and Traffic Engineering	DCE5.557	Traffic and Highway Eng	12
4028	Mathematics	DCE5.550 DCE5.558	Eng Mathematics 2A and Eng Mathematics 2B	12 12
5242	Applied Civil Engineering	DCE6.652	Construction Practices	12

10 MONITORING AND MODERATION

10.1 Provisions for external monitor

There is no requirement for an external monitor for this programme.

10.2 Moderation of assessment

The moderation plan for this programme has been established by the Consortium of Polytechnics, and comprises two components:

(a) Common Examinations

The Consortium has identified 12 courses from the course schedule to be examined and moderated by means of "common examinations".

The Consortium appoints for each of these courses a national examiner who sets the examination paper to be sat by all students from participating Consortium members. These papers are moderated by a "national" moderator, also appointed by the Consortium. These appointments are reviewed every two years.

(b) Internal Examinations

The remainder of the courses are examined internally by the various institutions.

These courses are externally moderated on a rotational basis at a rate of approximately four courses per annum in accordance with an external moderation policy set up by the Consortium.

The Consortium Committee annually identifies the courses to be moderated. It is the task of the Subject Coordinator for that course to:

- collect the material from each institution,
- assemble a moderation panel comprising academic and industry representatives, and
- oversee the moderation

11 OTHER REQUIREMENTS OF THE PROGRAMME

11.1 Special requirements

There are no special requirements for this programme.

11.2 Exceptions to programme regulations

The Academic Board, or nominated sub-committee, will consider exceptions to the Programme Regulations where unforeseen circumstances suggest that students might be disadvantaged by existing regulations.