

2019 PROGRAMME INFORMATION

TK1003

CERTIFICATE in ENGINEERING TECHNOLOGY

Please note: the last date for new enrolments on to the Certificate in Engineering Technology is 28th February 2019.

This programme is being phased out and needs to be completed by the end of Semester 2, 2019.



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Certificate in Engineering Technology

[Programme Code: TK1003]

1. AIMS

This certificate aims to provide a good grounding in engineering science and technical methods. Depending on the strand chosen graduates will gain broad knowledge covering one of the following areas:

- Core engineering
- Civil engineering
- Highway engineering

Certificate courses give a good foundation for further engineering studies at Level 5 and 6:

- NZ Diploma in Engineering (Civil)
- NZ Diploma in Engineering (Electronics)

Graduates of this Programme may be employed in the civil infrastructure industry in various roles such as engineering cadet, worksite team leader and assistant project engineer.

NZIHT, through the Western Institute of Technology at Taranaki (WITT), offers this programme on a part time basis using a mixed-mode delivery format. This method of delivery caters specifically for the needs of students who are unable to attend a conventional full-time programme. More details on the method of delivery are given in Section 5.

2. GRADUATE PROFILE

Strand A: Core Engineering Courses

A graduate from this Programme will be able to:

- use a wide range of knowledge to display an understanding of technical literacy, engineering communication and interpersonal communication skills relevant to civil and mechanical engineering industries
- identify and evaluate information from a variety of documents including technical specifications, engineering standards and codes of practice
- demonstrate knowledge of basic engineering drawing techniques and standards to communicate and present ideas
- demonstrate knowledge of the fundamental mathematical and engineering science skills required to engage in higher level diploma studies

Strand B: Highway Engineering Courses

A graduate from this Programme will be able to:

- apply engineering knowledge and skills to measure, estimate, calculate, investigate and plan general civil engineering projects of moderate scope
- identify and evaluate information from a variety of documents including technical specifications, engineering standards and codes of practice
- relate theory to the solution of standard and non-standard engineering problems of moderate scope in a highway engineering environment
- be accountable for the quality and quantity of their own work output and on occasions take responsibility for the work output of others
- demonstrate knowledge of the fundamental highway engineering skills required to engage in higher level diploma studies in this discipline

Strand C: Civil Engineering Courses

A graduate from this Programme will be able to:

- apply engineering knowledge and skills to measure, estimate, calculate, investigate and plan general civil engineering projects of moderate scope
- identify and evaluate information from a variety of documents including technical specifications, engineering standards and codes of practice
- relate theory to the solution of standard and non-standard engineering problems of moderate scope in a civil engineering environment
- be accountable for the quality and quantity of their own work output and on occasions take responsibility for the work output of others.

3. ENTRY CRITERIA

Academic Achievement

Applicants should demonstrate an ability to succeed in tertiary study, shown by the completion of any of the following qualifications or courses of study:

- 48 or more credits at NCEA Level 1, and must include NCEA Level 1 requirements for Literacy and Numeracy ; and/or
- Equivalent NQF Unit Standards
- 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 passed such tests of English language competence as detailed in Policy and Procedure English Language Proficiency.

Life Skills/Work Experience

Applicants who do not meet the academic entry criteria above may be admitted to the Programme of study if they are able to demonstrate:

- Equivalent knowledge and skills; and/or
- Previous and relevant life skills or work experience; and/or
- Other formal or informal study such as to suggest likelihood of successful Programme completion.

Selection criteria

Entry to the Programme will be in order of receipt of enrolments by applicants who meet the entry criteria above.

Applicants who seek entry to the programme under the Life Skills/Work Experience clause of the entry criteria above, may be required to attend an interview, and/or supply references or other supporting documentation.

Acceptance

Applicants wishing to enrol for the Certificate in Engineering Technology must complete the Entry Application Form and return it with supporting documentation to the Programme Coordinator for evaluation.

Following the review of the applications by the Programme Coordinator each applicant will be informed in writing of the result. There is a requirement that applicants accepted onto the Programme must complete a Western Institute of Technology at Taranaki (WITT) Enrolment Form.

Applicants will receive access to be able to complete the Enrolment Form when they are notified of their acceptance onto the Programme.

Please note a student is confirmed onto the Programme when NZIHT has received the Enrolment Form from the student. A confirmation email with the Programme Regulations and Student Handbook will be sent to the student once enrolled.

Prior to the start of the first study block students will have access on the NZIHT Course Management System (CMS) to the electronic course notes and course information sheet/s.

4. PROGRAMME STRUCTURE

Students must elect to do one or more of the following certificate strands:

- Core Engineering
- Civil Engineering
- Highways Engineering

Schedule of courses offered

**Table 1 - Certificate in Engineering Technology Courses
Elective Foundation Courses**

| CODE | COURSE TITLE | SEE NOTE 1 | LEVEL | CREDITS | PRE OR Co REQUISITES |
|---|----------------------------|---------------|-------|-----------|-------------------------|
| <i>ONE only foundation course can be used for credit towards award of a certificate</i> | | | | | |
| CET3.002 | Mathematics (Introduction) | E | 3 | 15 | |
| Total Credits that can be used for award of this certificate | | | | 15 | |

Strand A – Core Engineering Courses

| CODE | COURSE TITLE | C OR E ¹ | LEVEL | CREDITS | PRE OR Co REQUISITES |
|--|---------------------------|------------------------|----------|-----------------|-------------------------|
| <i>Students must complete the compulsory course plus at least TWO strand electives</i> | | | | | |
| CET4.113 | Technical Literacy | C | 4 | 15 | |
| CET4.111 | Engineering Fundamentals | E | 4 | 15 | CET3.002 - Co |
| CET4.112 | Engineering Mathematics 1 | E | 4 | 15 | CET3.002 - Pre |
| CET4.211 | Materials (Civil) | E | 4 | 15 | |
| Total Strand A Credits Required | | | | 45 or 60 | <i>Note 2 Below</i> |

Note¹: Code Key: **C**=Compulsory; **E**=Elective

Note²: Students may select ONE Elective Foundation course plus THREE Strand A courses OR FOUR Strand A courses - a total of 60 credits is required including the Strand Compulsory course.

Strand B – Highway Engineering Courses

| CODE | COURSE TITLE | C OR E ¹ | LEVEL | CREDITS | PRE OR Co REQUISITES |
|--|------------------------------|------------------------|----------|-----------------|------------------------------|
| <i>Students must complete the compulsory course plus at least TWO strand electives</i> | | | | | |
| CET5.204 | Highway Engineering 1 | C | 5 | 15 | CET4.112, 4.211, 5.207 - Pre |
| CET4.212 | Land Surveying 1 | E | 4 | 15 | |
| CET5.207 | Geotechnical Engineering 1 | E | 5 | 15 | |
| CET6.202 | Highway Engineering 2 | E | 6 | 15 | CET5.204 – Pre |
| Total Strand B Credits Required | | | | 45 or 60 | <i>Note 2 Below</i> |

Note¹: Code Key: **C**=Compulsory; **E**=Elective

Note²: Students may select ONE Elective Foundation course plus THREE Strand B courses OR FOUR Strand B courses – a total of 60 credits is required including the Strand Compulsory course.

Strand C – Civil Engineering Courses

| CODE | COURSE TITLE | | C OR E ¹ | LEVEL | CREDITS | PRE OR CO REQUISITES |
|--|------------------------------|--|---------------------|-------|---|--------------------------------|
| <i>Students must complete at least THREE of the following strand electives</i> | | | | | | |
| CET4.211 | Materials (Civil) | | E | 4 | 15 | |
| CET4.212 | Land Surveying 1 | | E | 4 | 15 | |
| CET5.207 | Geotechnical Engineering 1 | | E | 5 | 15 | |
| CET5.201 | Structures 1 | | E | 5 | 15 | CET4.111 - Pre |
| CET5.202 | Civil and Structural Drawing | | E | 5 | 15 | CET4.113 - Pre |
| CET5.203 | Hydraulics (Civil) | | E | 5 | 15 | CET4.111 - Co CET4.112 - Co |
| Total Strand C Credits Required | | | | | 45 or 60 <small>Note 2 Below</small> | |

Note¹: Code Key: C=Compulsory; E=Elective

Note²: Students may select ONE Elective Foundation course plus THREE Strand C courses OR FOUR Strand C courses - a total of 60 credits is required.

Note³: Applicants who can provide evidence of appropriate prior learning and/or work experience can, with the approval of the Academic Programme Leader, be exempted from this co-requisite requirement.

Colour Code Key:

- Course can be cross credited to NZDE (Civil)
- Course can be cross credited to NZDE Mechanical)
- Course can be cross credited to NZDE (Electronics)/ (Electrical)

Course Fees: \$740 including GST

Programme length

This is a 20 week, full-time programme of study which can also be completed part time.
The programme must be completed by the end of Semester 2, 2019.

5. METHOD OF DELIVERY

5.1 Block Courses

A combination of contact sessions, called **Study Blocks**, and structured self-directed study is used to deliver the programme. The self-directed study component is undertaken in the student's own time at home with the aid of course notes and a proposed work programme. Interaction with the course presenter as and when required is via e-mail or telephone. Interaction with the course presenter and fellow students can also be made through the Course Management System website (NZIHT CMS).

The length of the **Study Blocks** varies according to the nature of individual courses.

This method of delivery enables students to acquire the qualification on a part-time basis. A person in full-time employment, who is willing to work hard should be able to undertake on average 2 courses per semester. On this basis the programme can be completed in 1 to 2 years.

The current venues where Study Blocks are delivered, subject to demand, are Hamilton, Christchurch, Auckland and Palmerston North. Other venues will be considered based on demand.

5.2 Block Course Format

The learning activities for each course comprise the following components:

1. Contact session(s), referred to as **Study Blocks**, totalling between 5 and 8. days approximately, are normally broken into two blocks of approximately equal duration per course. (3 Study Blocks for CET3.002 Mathematics Introduction and CET4.112 Engineering Mathematics 1)
2. Structured self-directed study involving Self Evaluation Exercises and Assignments.
3. Final Examination.

The Study Block **timetable** for courses offered in 2019 are available on the CMS Library. www.nzihtcms.co.nz

These programmes are delivered using a mixed-mode delivery model. The key elements of the model are study blocks and tutor-directed self-study. Tutor-directed self-study are the parts of the course which you do in your own time BEFORE and AFTER attending study blocks. In this model the study blocks serve the purpose of supporting the tutor-directed self-study components of the course.

It is compulsory for students to attend all Study Blocks in their courses. The Study Blocks are especially critical to NZIHT's mode of delivery.

In the first instance if a Student cannot attend a Study Block, NZIHT will attempt to change the Student to an alternative venue. If an alternative venue cannot be found, the Student is required to apply to the Academic Programme Leader to be exempted from study block attendance. This will only be granted if the student can provide satisfactory evidence that he/she will not be disadvantaged by non-attendance of the study block eg on the basis of previous study (only if the student has achieved not less than 65% for any courses completed to date) or relevant recent work experience.

If the Academic Programme Leader does not grant an exemption or is not able, in agreement with student, to provide an alternative arrangement for the Study Block material to be satisfactorily covered then the student will be required to withdraw from the course or have the course transferred to another semester. Refunds of course fees or transfer of course fees will be assessed on a case by case basis and will be dependent on the time that withdrawal or transfer takes place.

5.3 Course Management System

Applicants accepted onto the Programme find it useful to have independent access to the internet. NZIHT has introduced a Course Management System website (CMS) to facilitate the interaction between fellow students, tutors and administrators.

The address is www.nzihtcms.co.nz

CMS is a website where:

- Administration staff post some of the admin resources commonly required by the student and communicates logistics, including venue and timetable information.
- Students can ask course related questions of the course presenters.
- Course presenters can discuss course related matters or disseminate additional information.
- Question-and-answer discussion trails (discussion forum) can be facilitated among members of a class group (including the course presenter).
- Marks for tests and assignments are posted during the progress of courses.

On acceptance into the programme students are provided with a user name and password to gain access to the site and its facilities.

6. RECOGNITION OF PRIOR LEARNING (RPL)

RPL refers to the practice of receiving applications for credit towards qualifications offered by WITT for formal or informal learning obtained elsewhere, and determining the suitability of the evidence received to warrant the award of credit towards a qualification awarded by WITT. RPL may take the following forms:

Assessment of Prior Learning (APL)

Formally acknowledges the value of a student's prior learning, whether formal or informal, by assessing that prior learning for the purpose of considering the granting of credit towards a unit of learning, course or programme in which a student wishes to enrol.

Credit Transfer (CT)

Credit for a course where the exact same course has been completed at another provider. Formal evidence must be provided by the student to indicate that they hold the relevant result. NB: If the other provider's course outcomes do not exactly match the WITT course learning outcomes the application is to be treated as an Assessment of Prior Learning (APL).

Evidence of Prior Learning

Evidence of competency in the relevant Learning Outcomes must be provided to support an application for APL or CT.

This evidence may include but is not exclusive to:

- Official Transcripts
- Course Documents
- Assessed Work
- Challenge Test set by the faculty (ie demonstration of skill or examination of knowledge)
- Portfolio of drawings and/or supporting documents as evidence of relevant work experience

How to Apply for RPL

A formal application process must be entered into by the student in order to gain such a credit (an application fee is payable). The Academic Programme Leader can give an opinion on the likelihood of success but all applications are subject to approval.

Discuss the application for RPL and the costs involved in the assessment of the RPL application with the Programme Coordinator.

7. HOW TO APPLY

Complete the Entry Application Form (see page 8) and send to the Programme Coordinator. Attach copies of results from school and tertiary education and any additional information or documents (e.g. CV) that may assist the Programme Coordinator in determining your eligibility, possibilities for recognition of prior learning (RPL) and which courses you should enrol for. This is a pre-enrolment process.

Once eligibility has been confirmed, students will receive log in details for the Course Management System (CMS) to complete the Enrolment Form.

Enrolment Form Submission Periods:

Semester 1 courses: Enrolments are accepted until late January.

Students may enrol for semester 1 & 2 at the start of the year.

Semester 2 courses: Enrolments are accepted until mid July

8. CONTACT DETAILS FOR ENQUIRIES

Programme Coordinator

NZIHT

PO Box 4273

New Plymouth 4340

| | |
|-----------|-------------------|
| Telephone | 06 759 7065 |
| Email | admin@nziht.co.nz |

ENTRY APPLICATION FORM

Application to join the **Certificate in Engineering Technology Programme** will be assessed on the basis of the information supplied.

Please supply with this form a copy of all result transcripts/ CV.

Send to:

admin@nziht.co.nz
or
NZIHT
PO Box 4273
New Plymouth 4340

Legal Name:

Date of birth:

Address:

Email:

Employer:

Job Title:

Telephone

Citizenship (please tick appropriate box)

Home

New Zealand Citizen

☐

Work

Permanent Resident

☐

Mobile

Other (please specify)

☐

Academic History

Provide all information that will help to determine:

1. Your eligibility to enrol in the programme
2. Possibilities with regard to Recognition of Prior Learning (RPL). An up to date CV is very useful.

(a) Secondary Level (Please tick the levels achieved and attach a copy of result transcripts)

School Subjects/Courses completed for which result transcripts have not yet been received

Level

Course

☐ **NCEA Level 1 (5th Form Certificate)**

☐ **NCEA Level 2 (6th Form Certificate)**

☐ **NCEA Level 3 (Bursary)**

(b) Tertiary Level

Please provide details of any tertiary studies completed to date:

If you already know which courses you wish to enrol for in 2019, indicate them on the *Course Selection Form* overleaf – otherwise leave the form blank.

Venue abbreviations:

HMN = Hamilton

PMN = Palmerston North

CHC = Christchurch

AKL = Auckland

| Course Code | Course Name | Level | Credits | Pre-requisites & Co-Requisites | 2019 | | | | | | | |
|--|------------------------------|-------|---------|--------------------------------|------------|-----|-----|-----|------------|-----|-----|-----|
| | | | | | Semester 1 | | | | Semester 2 | | | |
| | | | | | HMN | CHC | AKL | PMN | HMN | CHC | AKL | PMN |
| Elective Foundation Courses | | | | | | | | | | | | |
| CET3.002 | Mathematics (Introduction) | 3 | 15 | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Strand A – Core Engineering Courses | | | | | | | | | | | | |
| CET4.113 | Technical Literacy | 4 | 15 | | ✓ | ✓ | | ✓ | ✓ | ✓ | | |
| CET4.111 | Engineering Fundamentals | 4 | 15 | CET3.002 - Co | ✓ | ✓ | | ✓ | ✓ | | ✓ | |
| CET4.112 | Engineering Mathematics 1 | 4 | 15 | CET3.002 - Pre | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ |
| CET4.211 | Materials (Civil) | 4 | 15 | | ✓ | ✓ | | | | | ✓ | ✓ |
| Strand B – Highway Engineering Courses | | | | | | | | | | | | |
| CET5.204 | Highway Engineering 1 | 5 | 15 | CET4.112, 4.211, 5.207 Pre | ✓ | ✓ | ✓ | | | | | |
| CET4.212 | Land Surveying 1 | 4 | 15 | CET2.002 – Co ³ | ✓ | ✓ | ✓ | | | | | |
| CET5.207 | Geotechnical Engineering 1 | 5 | 15 | CET2.002 – Co ³ | | | | | ✓ | ✓ | ✓ | ✓ |
| CET6.202 | Highway Engineering 2 | 6 | 15 | CET5.204 - Pre | | | | | ✓ | | ✓ | ✓ |
| Strand C – Civil Engineering Courses | | | | | | | | | | | | |
| CET4.211 | Materials (Civil) | 4 | 15 | | ✓ | ✓ | | | | | ✓ | ✓ |
| CET4.212 | Land Surveying 1 | 4 | 15 | | ✓ | ✓ | ✓ | | | | | |
| CET5.207 | Geotechnical Engineering 1 | 5 | 15 | | | | | | ✓ | ✓ | ✓ | ✓ |
| CET5.201 | Structures 1 | 5 | 15 | CET4.111 - Pre | | | | | ✓ | ✓ | ✓ | ✓ |
| CET5.202 | Civil and Structural Drawing | 5 | 15 | CET4.113 - Pre | | ✓ | ✓ | | ✓ | | | |
| CET5.203 | Hydraulics (Civil) | 5 | 15 | CET4.111 - Co CET4.112 - Co | ✓ | ✓ | | ✓ | | | | |

All courses scheduled will be offered subject to sufficient demand