

## Bachelor of Engineering Technology

### Version 4.0

with majors in: Civil  
Electrical  
Mechanical

<b>Wintec code:</b>	SC1001	<b>MoE:</b>	WK2611
<b>Level:</b>	7	<b>Credits:</b>	360
<b>Owner:</b>	Centre for Engineering and Industrial Design	<b>Effective Date:</b>	January 2026

These regulations should be read in conjunction with the Institute's Academic Regulations.

### 1. Admission and Entry

#### 1.1 General Academic Admission

a) Candidates are required to have:

- i) University Entrance (UE), or equivalent, comprised of 60 credits at NCEA Level 3 or above and 20 credits at NCEA Level 2 or above, including:
  - (1) A minimum of 14 credits at NCEA Level 3 in Physics; **and**
  - (2) A minimum of 14 credits at NCEA Level 3 in Calculus; **and**
  - (3) A minimum of 14 credits at NCEA Level 3 in one other subject from the list of [UE approved subjects](#); **and**
  - (4) Literacy – 10 credits at Level 2 or above, made up of 5 credits in reading and 5 credits in writing; **and**
  - (5) Numeracy – 10 credits at Level 1 or above (specified achievement standards, or unit standards 26623, 26626, 26627 – all three required).

**Or:**

- ii) the New Zealand Diploma in Engineering (Level 6) (NZDE) with a 60% or better overall grade average; **or**
- iii) completed at least two years relevant work experience post-graduation; **or**
- iv) completed equivalent academic qualifications which may include University Bursary with 45% or more in both Physics and Calculus or Algebra, equivalent Cambridge score, equivalent International Baccalaureate.

#### 1.2 Special Admission

Domestic applicants aged 20 years or above who have not met the General Admission or entry requirements for a programme but whose skills, education or work experience indicate that they have a reasonable chance of success<sup>1</sup> may be eligible for Special Admission. Special admission will be granted at the discretion of the relevant Centre Director or designated nominee. Such applicants may be required to successfully complete a foundation, bridging or tertiary introductory programme as a condition of entry into higher level programmes.

#### 1.3 Provisional Entry

Domestic applicants aged under 20 years who have not met the general academic admission and entry criteria for a programme but who can demonstrate a reasonable chance of success through other educational attainment and/or work or life experience may be eligible for provisional entry at the discretion of the relevant Centre Director or designated nominee. Provisional entry places restrictions on re-enrolment to be lifted if the applicant's performance is deemed satisfactory by the relevant Centre Director or designated nominee.

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<sup>1</sup> [Education Act 1989 Section 224 \(3\)](#)

# Programme Regulations for:

## 1.4 Selection Criteria

- a) Candidates may be required to attend an interview and may be required to produce a work-based portfolio (where appropriate).
- b) Where applications exceed the number of places available, the following selection criteria may be applied:
  - i) academic achievement in related subject areas such as statistics, technology, and graphics
  - ii) previous academic achievements
  - iii) communication skills
  - iv) motivation to complete the programme
  - v) life or work experience in, or appropriate to, the programme
  - vi) ability to participate in fieldwork aspects of the programme, where relevant

## 1.5 English Language Requirements

Candidates who have English as a second language are required to have an overall International English Language Test System (IELTS) score of 6.0 or better in the academic band, with a minimum of 6.0 in the written and speaking bands, and a minimum of 5.5 in the reading and listening bands; **or** equivalent.

## 2. Transfer of Credit

- 2.1 Recognition of Prior Learning (RPL) will include both formal and experiential learning and Recognition of Current Competence (RCC) and is the granting of credit towards a qualification as a consequence. Recognition of Prior Learning (RPL) will be available for all modules/papers within this programme **except for** module *MG7101 Engineering Development Project* (Capstone project). RPL includes:
  - a) Credit Transfer (CT) where the same module/paper has been achieved in a different programme
  - b) Cross Credit (CC) where an equivalent module/paper, or multiple modules/papers, has been achieved and recognised as meeting the outcomes of a module/paper or multiple modules/papers within this programme
  - c) Assessment of Prior Experiential Learning (APEL) where current practice and competency, knowledge and skills are assessed to match individual or multiple modules/papers within this programme
  - d) Advanced Standing
- 2.2 Candidates may be eligible for Advanced Standing entry to the Bachelor of Engineering Technology programme. Advanced standing applications will be considered from experienced practitioners and/or graduates with other qualifications. Advanced standing will be assessed using the graduate profile and learning outcomes from the Bachelor of Engineering Technology.
- 2.3 Advanced Standing will be awarded when a candidate has been assessed for modules, qualifications and/or an APEL (Assessment of Prior Experiential Learning) process in which the outcomes equate to a minimum of sixty (60) credits, and in multiples of sixty (60) credits towards the qualification.
- 2.4 Candidates may be admitted to the second year of the programme if they have provided evidence that they have the qualifications and/or experience equivalent to the learning outcomes and standards of the first year of the degree.
- 2.5 Candidates may be admitted to the third year if they have provided evidence that they have the qualifications and/or experience that is equivalent to the learning outcomes and standards of the first and second year of the degree, including suitable qualifications and/or experience in the particular field of their intended major.
- 2.6 For cross credits from the New Zealand Diploma in Engineering (NZDE) listed on the New Zealand Qualifications Framework:

# Programme Regulations for:

- a) The Programme Committee may award cross credits from the NZDE according to information that is available via the Metro Moodle site. A maximum of 180 credits shall apply in terms of credit recognition towards the 360 credits required for programme completion.
- b) Cross credits from other related completed qualifications may also be considered by the Programme Committee. These will be considered on a case-by-case basis.

### 3. Programme Requirements

- 3.1 Every candidate for the Bachelor of Engineering Technology shall, to the satisfaction of the Academic Board, follow a programme of study for a period of normally not less than three years of full-time study.
- 3.2 Each candidate's programme of study shall comprise compulsory and elective modules as listed in Section 7 of these regulations, totalling 360 credits, of which at least 120 credits (including a minimum of 75 credits at Level 7) must be at the awarding Institute of Technology/Polytechnic.
- 3.3 In order to pass a module, all candidates must achieve a minimum of 40% in both aggregated coursework marks and in any final examination, with an overall mark of 50% or better, to pass the module. All assessments must be attempted.
- 3.4 Candidates are required to complete the modules in Section 6 of these regulations as follows:
  - a) For all majors, all common compulsory modules as specified in Section 6 Schedule of Modules (135 credits); **and**
  - b) For the **Civil major** only:
    - i) all the Civil major compulsory modules in Section 6 (120 credits); **and**
    - ii) Civil major elective modules (60 credits), including at least 15 credits at Level 7; **and**
    - iii) the balance of 45 credits from the Common or Civil major electives as listed in Section 6.
    - iv) A maximum of 30 credits from outside the programme may be selected with approval from the Programme Committee/Group Director. These may replace both major specific and common electives. Electives selected must meet academic requirements for module prerequisites and completion of the programme.
  - c) For the **Electrical major** only:
    - i) all the Electrical major compulsory modules in Section 6 (45 credits); **and**
    - ii) Electrical major elective modules (135 credits), including at least 15 credits at Level 7; **and**
    - iii) the balance of 45 credits from the Common or Electrical major electives as listed in Section 6.
    - iv) A maximum of 30 credits from outside the programme may be selected with approval from the Programme Committee/Group Director. These may replace both major specific and common electives. Electives selected must meet academic requirements for module prerequisites and completion of the programme.
  - d) For the **Mechanical major** only:
    - i) all the Mechanical major compulsory modules in Section 6 (120 credits); **and**
    - ii) Mechanical major elective modules (60 credits), including at least 15 credits at Level 7; **and**
    - iii) The balance of 45 credits from the Common or Mechanical major electives as listed in Section 6.
    - iv) A maximum of 30 credits from outside the programme may be selected with approval from the Programme Committee/Group Director. These may replace both major specific and common electives. Electives selected must meet academic requirements for module prerequisites and completion of the programme.
    - v) A student who has successfully completed MG6039 may not enrol in MG7031.

# Programme Regulations for:

## 4. Completion of the Programme

4.1 Candidates may take up to ten years to complete this programme unless an extension is granted by special permission of the Centre Director or designated nominee.

## 5. Award of the Qualification

5.1 For Wintec to award this qualification, a student must successfully complete the required 360 credits, of which 120 credits, including a minimum of 75 credits at Level 7, must be completed at Wintec.

4.2 Graduates completing the programme at Wintec are awarded a Bachelor of Engineering Technology (Civil), or Bachelor of Engineering Technology (Electrical), or Bachelor of Engineering Technology (Mechanical), depending on the major area of study.

## 6. Schedule of Modules

*Note: no value in the pre/co-requisite columns means there are no pre/co-requisites for that module.*

**Candidates should note that some Pathways and/or Elective Modules may not be offered or be available within any given year.**

### All Majors - Common Compulsory Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
MG5001	Engineering Computing	5	15		
MG5002	Mechanics	5	15		
MG5003	Engineering Communication	5	15		
MG5004	Engineering Maths Level 5	5	15		
MG5005	Engineering Design and Drawing	5	15		
MG6103	Engineering Management	6	15	MG5003	
MG7101	Engineering Development Project	7	30	Civil: MG6106 OR Electrical/Mechanical: MG6136; AND Minimum of 30 credits at level 6 in chosen major	
MG7121	Professional Engineering Practice	7	15	MG6103	

### All Majors - Common Elective Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
MG6190	Mathematics Level 6	6	15	MG5004	
MG7025	Project Management	7	15	MG6103	
MG7026	Risk Management	7	15	MG6103	
MG7047	Special Topic	7	15		

### Civil Major Compulsory Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
MG5006	Land Surveying 1	5	15		
MG5008	Fluid Mechanics (Civil)	5	15	MG5002 MG5004	
MG5009	Geotechnical Engineering 1	5	15		
MG5012	Highway Engineering 1	5	15	MG5004 MG5009	
MG5107	Civil Materials	5	15		

# Programme Regulations for:

MG5032	Structures 1	5	15	MG5002	
MG6005	Civil Engineering Detailing and Modelling	6	15	MG5005	
MG6106	Civil Engineering Construction Practices	6	15		

## Civil Major Elective Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
MG6011	Hydrology and Erosion Management	6	15		
MG6012	Geotechnical Engineering 2	6	15	MG5009	
MG6014	Highway Engineering 2	6	15	MG5012	
MG6015	Traffic Engineering	6	15	MG5012	
MG6046	Structures 2	6	15	MG5032	
MG6109	Water and Waste Systems	6	15		
MG6110	Water and Waste Management	6	15		
MG6116	Sustainable Engineering	6	15		
MG7005	Urban Drainage Systems	7	15	MG6109	
MG7007	Urban Transport Planning	7	15	MG5012	
MG7046	Engineering Site Investigation	7	15	MG6012	

## Civil Pathways

Note: Pathways are indicative only

### Water and Water Waste Pathway – recommended modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
MG6109	Water and Waste Systems	6	15		
MG6011	Hydrology and Erosion Management	6	15		
MG6110	Water and Waste Management	6	15		
MG7005	Urban Drainage Systems	7	15	MG6109	

### Roading/Transportation Pathway – recommended modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
MG6012	Geotechnical Engineering 2	6	15	MG5009	
MG6014	Highway Engineering 2	6	15	MG5012	
MG6015	Traffic Engineering	6	15	MG5012	
MG7007	Urban Transport Planning	7	15	MG5012	

## Electrical Major Compulsory Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
MG5034	Electrical Principles; and	5	15		
MG5035	Electronic Principles	5	15		
MG5014	Electrical and Electronic Principles 1; and	5	15		
MG5015	Electrical and Electronic Principles 2	5	15		
MG6136	Engineering Project	6	15	MG5003	

# Programme Regulations for:

				MG5005 Minimum of 45 credits at level 5 from major specific modules	
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**Note:** only one combination is compulsory – **either** MG5034/MG5035, **or** MG5014/MG5015

## Electrical Major Elective Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
MG5016	Elements of Power Engineering	5	15	MG5015 or MG5034	
MG5017	Electrical Machines	5	15	MG5015 or MG5034	
MG5018	PLC Programming 1	5	15	MG5001 MG5014 or MG5034	
MG5026	Instrumentation and Control 1	5	15	MG5014 or MG5034	
MG5124	Introduction to Networks	5	15		
MG6019	PLC Programming 2	6	15	MG5018	
MG6031	Instrumentation and Control 2	6	15	MG5004 MG5026	
MG6032	Fluid Mechanics (Mech)	6	15	MG5002 MG5004	
MG6033	Mechanics of Machines	6	15	MG5029	
MG6047	Protection	6	15	MG5004 MG5016	
MG6117	Power Distribution	6	15	MG5016	
MG6118	Sustainable Energy and Power Electronics	6	15	MG5004 MG5014 or MG5034 MG5015 or MG5035	
MG7011	Electrical Machine Dynamics	7	15	MG5017	
MG7110	Power Systems	7	15	MG5016	

## Electrical Pathways

**Note:** Pathways are indicative only

### Power Pathway – recommended modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
MG5016	Elements of Power Engineering	5	15	MG5015 or MG5034	
MG5017	Electrical Machines	5	15	MG5015 or MG5034	
MG5018	PLC Programming 1	5	15	MG5001 MG5014 or MG5034	
MG6117	Power Distribution	6	15	MG5016	
MG6118	Sustainable Energy and Power Electronics	6	15	MG5004, MG5014 or MG5034 MG5015 or MG5035	
MG6019	PLC Programming 2	6	15	MG5018	
MG6047	Protection	6	15	MG5004, MG5016	
MG7011	Electrical Machine Dynamics	7	15	MG5017	
MG7110	Power Systems	7	15	MG5016	

### Mechatronics Pathway – recommended modules

# Programme Regulations for:

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
MG5018	PLC Programming 1	5	15	MG5001 MG5014 or MG5034	
MG5026	Instrumentation and Control 1	5	15	MG5014 or MG5034	
MG6019	PLC Programming 2	6	15	MG5018	
MG6031	Instrumentation and Control 2	6	15	MG5004 MG5026	
MG6032	Fluid Mechanics (Mech)	6	15	MG5002 MG5004	
MG6033	Mechanics of Machines	6	15	MG5029	
MG6020	Automation	6	15	MG6019	
MG7017	Robotics	7	15	MG6019 MG6033	
MG7018	Systems and Control	7	15	MG6031	

## Mechanical Major Compulsory Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
MG5028	Mechanical Materials	5	15		
MG5029	Strength of Materials 1	5	15	MG5002 MG5004	
MG5030	Thermodynamics and Heat Transfer	5	15	MG5004	
MG5033 OR MG5034	Electrical Fundamentals OR Electrical Principles	5	15		
MG6032	Fluid Mechanics (Mech)	6	15	MG5002 MG5004	
MG6033	Mechanics of Machines	6	15	MG5029	
MG6037	Advanced Thermodynamics	6	15	MG5030	
MG6136	Engineering Project	6	15	MG5003 MG5005 Minimum of 45 credits at level 5 from major specific modules	

## Mechanical Major Elective Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
MG6038	Strength of Materials 2	6	15	MG5029	
MG6040	Product Design Engineering	6	15	MG5002 MG5005	
MG6044	Manufacturing Processes and Production	6	15	MG5028	
MG6051	3D Parametric Solid Modelling	6	15	MG5005	
MG7022	Energy Engineering	7	15	MG6037	
MG7024	Fluids Power and Advanced Fluid Mechanics	7	15	MG6032	
MG7031	Applied Computational Modelling	7	15	MG5029 or MG5032 MG6032 or MG5008	