Bachelor of Technology

with endorsements in:	Agritechnology Biotechnology Environmental Technology Food Technology

Wintec code:	SC0901	**MoE:**	WK2560
Level:	7	**Credits:**	360
Owner:	Centre for Science and Primary Industries	**Effective Date:**	January 2018

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 obtained:

i) NCEA Level 3 comprised of 60 credits at NCEA Level 3 or above and 20 credits at NCEA Level 2 or above, including:

(1) 14 credits each at NCEA Level 3 in Biology, Chemistry and a third approved subjects[1], preferably English; **and**

(2) a minimum of 20 credits at NCEA Level 2 in Mathematics; **and**

(3) Literacy[2] (10 credits at NCEA Level 2 or above made up of 5 credits each in reading and writing); **and**

(4) Numeracy[3] (10 credits at NCEA Level 1 or above); **or**

ii) 80 credits at NCEA Level 2, including:

(1) a minimum of 20 credits each in Biology, Chemistry and Mathematics and one other approved subject, preferably English; **and**

(2) Literacy (10 credits at NCEA Level 2 or above made up of 5 credits each in reading and writing); **and**

(3) Numeracy (10 credits at NCEA Level 1 or above); **or**

iii) a relevant qualification at Level 3 on the NZQF or above; **or**

iv) equivalent.

[1] List of UE Approved Subjects on NZQA website
[2] List of Achievement Standards that contribute to Literacy from NZQA website
[3] List of Achievement Standards that contribute to Numeracy from NZQA website

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[4] may be eligible for Special Admission. Special admission will be granted at the discretion of the relevant Head of School/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 Head of School/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 Head of School/Centre Director or designated nominee.

1.4 **English Language Requirements**
Candidates who have English as a second language are required to have an International English Language Test System (IELTS) score of 6.0, with no individual band score lower than 5.5; or equivalent.

2. Transfer of Credit

2.1 The standard credit limit for TOC is two thirds (⅔) of the qualification.

2.2 Transfer of credit will not be granted at Level 7.

2.3 In exceptional circumstances, these Transfer of Credit clauses may be waived, with the approval of the Academic Board or delegated authority.

3. Programme Requirements

3.1 Every candidate for the Bachelor of Technology shall to the satisfaction of the Academic Board follow a programme of study for a period of normally not less than three years full-time study.

3.2 Each candidate's programme of study shall comprise compulsory and elective modules as listed in Section 6 of these regulations, totalling 360 credits, of which at least 210 credits must be at Level 6 or above, of which at least 75 credits must be at level 7.

3.3 Candidates are required to complete the modules in Section six of these regulations as follows:

a) Candidates are required to complete the compulsory modules as specified for all endorsements.

b) In addition, candidates are required to complete the compulsory modules as specified for each endorsement.

c) In addition, candidates are required to complete the balance of modules:
   i) either entirely from the Elective 1 modules.

[4] Education Act 1989 Section 224 (3)

ii) or a selection from Elective 1 modules and not more than four modules from Elective 2 modules.

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.

5. Award of the Qualification

5.1 Candidates who successfully complete the requirements in Section 3 of these regulations will be awarded the Bachelor of Technology with the relevant endorsement.

5.2 "In cases of exceptional academic achievement a Bachelor of Technology may be awarded with either 'Merit' or 'Distinction'". 'Exceptional' is defined as having maintained a grade average of A- or higher.

6. Schedule of Modules

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

Compulsory Modules for All Endorsements

Level 5 Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
BBSD541	Communication in Business	5	15		
SCBC501	Chemistry Principles and Methods	5	15		
SCBT501	Physical Principles	5	15		
SCBT502	Introduction to Technology	5	15		

Level 6 Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
SCBT601	Data Analysis and Quality Assurance	6	15	SCBT501	
SCBT604	Computer Applications for Technology	6	15	SCBT502	

Level 7 Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
SCBT701	Topics in Technology	7	15	SCBT502 BBSD541	
SCBT702	Integrated Technology Systems	7	15	SCBT604	
SCBT703B	Technology Project	7	45	SCBT601 SCBT604 Plus at least 3 Level 6 Elective 1 modules	

Compulsory Modules for the Agritechnology Endorsement

Level 6 Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites

SCBA603	Process Engineering	6	15	SCBT501	

Level 7 Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
SCBA704	Agricultural Process Technology	7	15	SCBA603	

Compulsory Modules for the Biotechnology Endorsement

Level 5 Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
SCBC501	Chemistry Principles and Methods	5	15		
SCBB501	Biological Principles	5	15		
SCBC502	Organic Chemistry Principles	5	15		

Level 6 Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
SCBC601	Analytical Chemistry	6	15	SCBC501	
SCBE602	Molecular Components of Living Organisms	6	15	SCBC502	
SCBE603	Molecular Genetics	6	15	SCBB501	

Level 7 Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
SCBB704	Microbial and Gene Technology	7	15	SCBE603	

Compulsory Modules for the Environmental Technology Endorsement

Level 5 Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
SCBC501	Chemistry Principles and Methods	5	15		
SCBB501	Biological Principles	5	15		

Level 6 Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
SCBB602	Ecosystems and Conservation	6	15	SCBB502	
SCBB604	Environmental Assessment	6	15		
SCBB603	Biosecurity	6	15		

Level 7 Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
SCBE704	Environmental Management	7	15	SCBB604	

Compulsory Modules for the Food Technology Endorsement

Level 5 Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
SCBC502	Organic Chemistry Principles	5	15		
SCBM501	Microbiology Principles and Techniques	5	15		

Level 6 Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
SCBF601	Food Chemistry	6	15	SCBC502	
SCBA603	Process Engineering	6	15	SCBT501	
SCBF602	Food Properties	6	15	SCBF601	

Level 7 Modules

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
SCBF704	Food Process Technology	15	7	SCBA603	

Elective 1 Modules

Level 5

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
SCTV520	Introduction to Diagnostic Techniques	5	15		
SCTV570	Large Animal Technical Assistant	5	15		
SCBB501	Biological Principles	5	15		
SCBB502	Biological Diversity	5	15		
SCBC501	Chemical Principles and Methods	5	15		
SCBC502	Organic Chemistry Principles	5	15		
SCBM501	Microbiology Principles and Techniques	5	15		
SCBO501	Option A – approved module relevant to the degree	5	15	as required by module	
SCBO502	Option B – approved module relevant to the degree	5	15	as required by module	

Level 6

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
SCBA603	Process Engineering	6	15		
SCBB601	Mammalian Physiology	6	15	SCBB501	
SCBB602	Ecosystems and Conservation	6	15	SCBB502	
SCBB603	Biosecurity	6	15		
SCBB604	Environmental Assessment	6	15	-	
SCBB605	Technology Applications of Eukaryote Biology	6	15	SCBB501 SCBB502 SCBM501	
SCBC601	Analytical Chemistry	6	15	SCBC501	
SCBE602	Molecular Components of Living Organisms	6	15	SCBC502	
SCBE603	Molecular Genetics	6	15	SCBB501	
SCBF601	Food Chemistry	6	15	SCBC502	

SCBF602	Food Properties	6	15	SCBF601	
SCBM601	Applied Microbiology	6	15	SCBM501	
SCBO601	Option C – approved module relevant to the degree	6	15	as required by module	
SCBO602	Option D – approved module relevant to the degree	6	15	as required by module	
SCBT603	Technology Special Topic	6	15		
SCTV640	Advanced Diagnostic Techniques	6	15		

Level 7

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
SCBA704	Agricultural Process Technology	7	15	SCBA603	
SCBB704	Microbial and Gene Technology	7	15	SCBE603	
SCBC703	Advanced Analytical Chemistry	7	15	SCBC601	
SCBE704	Environmental Management	7	15	SCBB604	
SCBF704	Food Process Technology	7	15	SCBA603	
SCBT704	Technology Evolution and Career Skills	7	15	SCBT502 SCBT604 SCBT701	

Elective 2 Modules

Level 5

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
BBSD501	Introduction to Accounting	5	15		
BBSD521	Introduction to Law	5	15		
BBSD551	Marketing Fundamentals	5	15		
BBSD571	Introduction to Management	5	15		
ITB5100	Fundamentals of Information Technology	5	15		
ITB5105	Mathematics for Information Technology	5	15		
ITB5120	Introduction to Systems Analysis, Design & Implementation	5	15	ITB5100	
ITB5125	Introduction to Databases	5	15	ITB5100 ITB5120	
ITB5130	Introduction to Programming	5	15		
ITB5131	Intermediate Programming	5	15	ITB5130	
ITB5150	Mechatronics	5	15	ITB5105	
	Any relevant level 5 modules from a degree programme.*	5	15		

* These modules must be approved by the Team Manager.

Level 6

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
BBSD642	Oral Communication	6	15	BBSD641	
BBSD641	Advanced Communication in Business	6	15	BBSD541	
BBSD602	Management Accounting	6	15	BBSD502	
BBSD651	Marketing Management	6	15	BBSD571	
BBSD672	Operations Management	6	15	BBSD571	

BBSD674	Organisational Behaviour	6	15		
ITB6225	Intermediate Databases	6	15	ITB5120 ITB5125	
ITB6227	Web Programming for e-Commerce	6	15	ITB5100	
	Any relevant level 6 modules from a degree programme.*	6	15 minimum		

* These modules must be approved by the Team Manager.

Level 7

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
BBSD772	Advanced Operations Management	7	15	BBSD672	
BBSD776	Management of Innovation and Entrepreneurship	7	15	Any level 6 management module and level 6 marketing module.	
ITB7305	Artificial Intelligence	7	15	ITB5105 ITB5131	
ITB7325	Advanced Databases	7	15	ITB6225	
ITB7323	Decision Support Systems	7	15	ITB6225	

Table: Optional Module

Module Code	Module Name	Level	Credits	Pre-Requisites	Co-Requisites
DFNZ701	Design Factory 1	7	30		

The 30 credit module DFNZ701: Design Factory 1 can be offered as an option within any Wintec degree programme, wherever the degree programme structures allows such an option. Admission into the Design Factory module is on negotiation with the Centre Director or delegated authority and selection into the module is in line with the Design Factory process.