Bachelor of Applied Information Technology

Curriculum Document

Volume TWO of Four

PROGRAMME DETAILS

Centre for Information Technology

Approved by the Academic Approval Committee (AAC) | 20 August 2015
NB: Document updated following Panel visit 9 & 10 November 2015
Centre Name Change approved by AAC 02 October 2018

Table of Contents

NOTE:

There are four volumes that create the full curriculum document. This is **Volume Two** of Four.

Volume One – Qualification Details for qualifications listed on the New Zealand Qualifications Framework (NZQF)	Includes: • Provider Information • Original approval dates for whole curriculum • Qualification details required to meet listing requirements of the NZQF (e.g. title, outcomes statements, etc) • Acceptability of the Programme (e.g. Stakeholder information)
Volume Two – Programme Details leading to the qualification listed on the NZQF	Includes: • Control page for changes made post approval • Programme details • Coherency between qualification and programme • Programme Regulations • Module descriptors • Assessment, Delivery, Resource, Staff, Self-Assessment requirement/capabilities of the programme
Volume Three – Wintec Capabilities	Quality @ Wintec document that exemplifies Wintec's capabilities to deliver and support any programme and incorporates Wintec's Quality Management System (QMS)
Volume Four – Appendices	Documentation that supports the approval of the programme

New Zealand Qualifications Authority (NZQA) Criteria for the approval and accreditation of degrees and related qualifications

This section details the criteria that NZQA will assess against when considering this curriculum document for approval and accreditation.

- The Curriculum Development Team needs to ensure all criteria below are responded to
- The Curriculum Critique Panel needs to ensure all criteria have been answered

This section then becomes a quick reference guide for the NZQA assessors.

Section 2: Degree programme approval

Section 2: Criterion 1: Qualification to which the programme leads:

Requirements	Curriculum section
The programme meets the definition of the qualification to which it leads.	1.2: Credit / Level / Type

Section 2: Criterion 2: Title, aims, learning outcomes and coherence

Requirements	Curriculum section
The title, aims, stated learning outcomes, and coherence of the whole programme are adequate and appropriate and clearly meet the graduate profile and specification for the qualification as listed on the New Zealand Qualifications Framework.	1.5: Outcome Statements – specifically Graduate Profile
The title of the degree programme clearly and accurately reflects the subject area of the degree and the qualification to which it leads.	1.2: Title
The aims of the degree programme clearly match the qualification's purpose. The qualification's use and relevance to learners, industry and communities are developed from identification of the need for the degree programme. The learner group is identified and the degree programme clearly articulates the purpose of the degree programme and the qualification to which it leads.	1.4: Aims
The learning outcomes describe the specific knowledge, skills, understanding and attitudes a learner will achieve through each component of the programme of study.	Volume Two: 2.3.1: Coherency Map Volume Two: 2.6: Module Summary and Associated Module Descriptors
The degree programme structure demonstrates how the aims and learning outcomes all integrate to form a coherent programme.	Volume Two: 2.3.2:Programme Structure and Progressions
There is clear evidence of the manner in which majors are connected to each other if relevant and/or to the overall degree programme.	1.4: Aims 1.5: Outcome Statements

Section 2: Criterion 3: Delivery methods

Requirements	Curriculum section
The delivery methods are adequate and appropriate, given the stated learning outcomes for the programme. Where specific resources are necessary for the programme to be provided, those resources are clearly outlined.	Volume Two: 2.4.2: Delivery of the Programme

Practical, field-based or work-based components of the degree programme, including research and supervision of research, that are based away from the stated delivery site are identified.	Volume Two: 2.4.3: Practical or work-based components
Systems and facilities appropriate to the level and scale of the research involved in the degree programme are identified.	Volume Two: 2.4.6: Research

Section 2: Criterion 4: Acceptability of the programme and consultation

Requirements	Curriculum section
The programme is acceptable to the relevant academic, employer, industry, professional and other bodies or communities in terms of meeting its stated aims and learning outcomes, nomenclature, content and structure.	1.7: Acceptability of the Programme and Consultation

Section 2: Criterion 5: Regulations

Requirements	Curriculum section
There are clear, relevant, and appropriate regulations that specify requirements for: • admission • credit recognition and transfer • recognition of prior learning • programme length and structure • integration of practical and work-based components • assessment procedures, including authenticity of student work • normal progression within the programme.	2.5: Programme Regulations
Assessment methodology is fair, valid, consistent and appropriate, given the stated learning outcomes.	2.4.4: Assessment and supported by Wintec's Academic Regulations and Manual

Section 2: Criterion 6: Assessment and moderation

Requirements	Curriculum Section
Assessment methodology is fair, valid, consistent and appropriate given the stated learning outcomes. There is an effective system for moderation of assessment materials and decisions.	2.4.4: Assessment and 2.4.5: Moderation and 2.4.6: Assessment of Research

Section 2: Criterion 7: Assessment and review

Requirements	Curriculum Section
The institution: • assesses the currency and content of the programme • has adequate and effective processes for the ongoing review of the programme, taking account of the results of any review of the qualification • has adequate and effective processes for monitoring the quality of outcomes for learners and other stakeholders, and for reviewing programme regulation and content • updates the programme accordingly.	2.4.10: Self-Assessment Volume Three: Quality@Wintec Appendix ?: Additional Capabilities

Section 2: Criterion 8: Research required for degrees and post-graduate qualifications

Requirements	Curriculum Section
The links between research and the curriculum are clear, adequate, and effective. Degree teaching staff members conduct research within their area of expertise which advances knowledge and understanding, and/or supports the continued development of the degree programme and its delivery.	2.4.6: Research Appendix ?: Research Plan??

Section 3 Accreditation to provide degree programme: Criterion 1: Assessment and Moderation

Requirements	Curriculum Section
The institution has the capability and capacity to ensure assessment materials and decisions are fair, valid, consistent and appropriate, given the stated learning outcomes.	2.4.4: Assessment; Programme Quality in Volume Three: Quality@Wintec and the Policy on Assessment and Moderation (AB7-4/11) (policy is available on request)
The institution has an effective system for both internal and external moderation pre- and post-assessment. This includes the identification of external arrangements for post-assessment moderation.	2.4.5: Moderation

Section 3: Criterion 2: Resources

Requirements	Curriculum Section
The institution has the capability and capacity to support sustained delivery of the programme through appropriate academic staffing, teaching facilities, educational and physical resources, and support services.	2.4.12: Staff Relevant to Programme Volume Three: Quality@Wintec [specifically Organisational Frameworks] and 2.4.8: Facilities, Resources and Technologies that support the Programme

Section 3: Criterion 3: Support for delivery

Requirements	Curriculum Section
If the applicant institution is not the holder of the programme approval, there is support from the holder of the programme approval.	Not relevant

Section 3: Criterion 4: Assessment and review

Requirements	Curriculum Section
The institution has an adequate and effective system for the review of programme performance and the institution's capability to support the programme.	2.4.10: Programme Self-Assessment
There is an effective system for monitoring the efficacy of any improvements made to the degree programme as a result of any reviews.	2.4.9: Monitoring and Volume Three: Quality@Wintec

Section 3: Criterion 5: Research activity required to deliver degrees and post-graduate qualifications

Requirements	Curriculum Section

The institution demonstrates its research facilities and the support of staff involved in research are adequate, the levels of research activity of staff involved in the programme are satisfactory, and the ways by which the research-teaching links are made in the curriculum are appropriate.	2.4.6: Research Volume Four: Appendix: Research Plan
The institution's systems and facilities provide appropriate support to teaching staff involved in research, including access to an appropriate ethics committee. Degree programmes with research components also have appropriate systems and facilities appropriate to the level and scale of the research to enable learners to undertake relevant research.	Volume Three: Quality@Wintec

Volume Two:
Programme Details

VOLUME TWO: PROGRAMME OF STUDY

2.1 CONTROL PAGE

Any changes to Programmes and Modules that are made through the Wintec online system for 'Changes to Programmes and Modules' should be recorded in this table.

Version Control and Document Changes:

Version No:	Change Request No:	AAC Approval Date:	New Programme or Category of Change	Summary of change:	Document updated by:	Date updated:
2016 Level7+ Control Page moved to SharePoint						

2.2 PROGRAMME SPECIFICATIONS

Arion Programme Code:	BI1601
Title of Programme:	Bachelor of Applied Information Technology
Programme Level:	7 Level 7
Programme Credits/Points:	360
ISCED:	5
Subsequent Destination *(ISCED additional field)*	A
EFTS:	3.000
NZSCED:	02999
Award Category	Bachelors (including Intermediate)
Qualification Type	Degress
Qualification Sub-Type:	Degree
Graduation Type:	Corporate Graduation
Parchment Format:	5 Degrees
Abbreviation of Qualification:	BAppIT
MOE Code:	WK2687
Enrolment Types:	D, I
Full / Part Time	Full Time
Centre Code:	BI
Centre Name:	Centre for Business, Information Technology and Enterprise
Classification:	Computing; Data Processing
TSC Category:	B2
Cost Centre:	

Endorsements *(incl. Subfields / Domains accredited):*	None
Embedded Qualifications:	New Zealand Certificate in Information Technology (Level 5) New Zealand Diploma in Information Technology Technical Support (Level 5)
Exit Award:	New Zealand Certificate in Information Technology (Level 5) New Zealand Diploma in Information Technology Technical Support (Level 5)

Volume Two | Programme Details

Length of Programme:	3 years full time
Intended Start Date:	Semester 1, 2016
Applications Close:	
Location / Sites:	Wintec City Campus and Rotokauri Campus, Hamilton

Tuition Teaching Weeks	32	**Tuition Hours / week**	13.7
+ Vacation / Recess Weeks	4	**+ Independent Study Hours / week**	23.8
+ Total Gross Weeks	36	**= Total Learning Hours / week**	37.5
Number of Years	3		

Type 2 changes approved by NZQA Nov 2018

Teaching Weeks	32	Directed hours / week	13.83
+ Vacation / Recess Weeks	4	Tutor Directed hours / week	12.46
= Total Gross Weeks	36	Work Placement hours / week	1.37
Number of Years [Anything less than a year should be recorded as 1 year]	3	+ Independent Study Hours / week	23.67
		= Total Learning Hours / week	37.5

Teaching Weeks		Total Hours / week		Number of Years		Total Hours
32	x	37.5	x	3	=	3600

This programme is seeking approval for:

EFTS – Based Funding	Yes
Student Allowances	Yes
Student Loan Scheme	Yes

Description:

The Bachelor of Applied Information Technology (BAppIT) programme is a unique, practical programme for students seeking a career in Information Technology (IT). This technical and applied Information Technology degree provides a sound understanding of the dynamic and changing environment in which IT takes place. As well as learning and gaining the knowledge and skills to deliver quality IT, students will also develop effective communication skills and fundamental business concepts to support and enhance a range of organisations and industries.

Students can choose to specialise in one of the following four specialisations:

- Network engineering
  The network engineering specialisation is designed to provide graduates with sufficient specialised skills necessary for a career in the field of network engineering, network administration, cyber and network security.

- Software engineering
  The software engineering specialisation is designed to provide graduates with sufficient skills necessary for a career in the field of software engineering, software development, analytics, business intelligence and software testing.
- Database architecture
  The database architecture specialisation is designed to provide graduates with sufficient skills necessary for a career in database/data warehouse development, database administration, business intelligence, and mobile applications development.
- Multimedia and web development

  The multimedia and web development specialisation is designed to provide graduates with sufficient skills for a career in multimedia and web design/development, web applications development and cyber security.

Entry Requirements:

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

- 14 credits each at NCEA Level 3 in three approved subjects; **and**
- UE Literacy (10 credits at NCEA Level 2 or above made up of 5 credits each in reading and writing); **and**
- UE Numeracy (10 credits at NCEA Level 1 or above) made up of specified achievement standards or a package of specified unit standards.

Or

- 72 credits at NCEA Level 2 including:
- a minimum of 14 credits in each of four subjects; **and**
- UE Literacy (10 credits at NCEA Level 2 or above made up of 5 credits each in reading and writing); **and**
- UE Numeracy (10 credits at NCEA Level 1 or above).

Or

A relevant qualification at Level 3 on the NZQF or above and the equivalent of UE Literacy and UE Numeracy.

Or

The New Zealand Certificate in Information Technology (Level 5); **or**
The New Zealand Diploma in Information Technology Technical Support (Level 5).

Or

Equivalent.

English Language Requirements

Candidates with English as a second language are required to have an IELTS score of 6.0, with no individual band score lower than 5.5; or equivalent;
or have completed two years study at a New Zealand secondary school and achieved either NCEA Level 3, or NZ University Entrance, or both.

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[1] 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.

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.

Recognition of Prior Learning Arrangements

All relevant credits from other approved qualifications will be considered for credit recognition (cross credits, credit transfers, advanced standing and recognition of prior learning) according to Wintec's standard policy and procedure.

The standard credit limit for Transfer of Credit is two thirds (⅔) of the qualification, and ToC will not be granted at Level 7. In exceptional circumstances, these clauses may be waived, with the approval of the Academic Board or delegated authority.

Career/further opportunities:

The Bachelor of Applied Information Technology prepares graduates for employment in the Information Technology environment. Employment opportunities include Network Engineers, Software Engineers, Multimedia and Web Developers, Database Architects, Business/Systems Analysts, IT Project Managers, IT Managers or Network/Cyber-Security professionals.

Graduates may also go onto higher levels of study at postgraduate level.

[1] Education Act 1989 Section 224 (3)

2.3 PROGRAMME COHERENCY

Graduate Outcomes Statements	*Related Modules*	COMP501 Information Technology Operations	COMP502 Fundamentals of Programming and Problem Solving	INFO501 Professional Practice	INFO502 Business Systems Analysis and Design	COMP503 Introduction to Networks	COMP504 Operating Systems and Systems Support	INFO503 Database Principles	INFO504 Technical Support
Year One Technical skills:									
Select, install and configure IT hardware and systems software to meet organisational requirements		✓			✓	✓	✓	✓	✓
Apply a broad operational knowledge of networking, and associated services and technologies to meet typical organisational requirements			✓		✓	✓			
Configure and administer systems and applications to meet typical organisational IT support requirements					✓	✓	✓	✓	✓
Apply a broad operational knowledge of database administration to meet typical organisational data storage and retrieval requirements					✓			✓	
Troubleshoot and resolve a range of common system problems using appropriate tools and procedures			✓				✓	✓	✓

Graduate Outcomes Statements ☟	*Related Modules* ☛	COMP501 Information Technology Operations	COMP502 Fundamentals of Programming and Problem Solving	INFO501 Professional Practice	INFO502 Business Systems Analysis and Design	COMP503 Introduction to Networks	COMP504 Operating Systems and Systems Support	INFO503 Database Principles	INFO504 Technical Support
Identify common issues related to IT security and apply a range of solutions		✓		✓			✓	✓	✓
Demonstrate an operational knowledge and understanding of IT service management to meet typical organisational customer service requirements		✓	✓	✓	✓				✓
Year One Core IT skills:									
Apply the fundamentals of information systems concepts and practice to support and enhance organisational processes and systems		✓	✓	✓	✓			✓	✓
Apply the fundamentals of interaction design concepts and practice to enhance interface design			✓		✓		✓		
Apply the principles of software development to create simple working applications			✓		✓				

Graduate Outcomes Statements	*Related Modules*	COMP501 Information Technology Operations	COMP502 Fundamentals of Programming and Problem Solving	INFO501 Professional Practice	INFO502 Business Systems Analysis and Design	COMP503 Introduction to Networks	COMP504 Operating Systems and Systems Support	INFO503 Database Principles	INFO504 Technical Support
Apply professional, legal, and ethical principles and practices in a socially responsible manner as an emerging IT professional		✓		✓	✓			✓	✓
Apply communication, personal and interpersonal skills to enhance effectiveness in an IT role		✓		✓			✓		✓
Use problem-solving and decision-making techniques to provide innovative and timely Information Technology outcomes			✓	✓	✓			✓	✓

Graduate Outcomes Statements	*Related Modules*	COMP601 Object Oriented Programming	INFO601 Database Modelling and SQL	MATH601 Mathematics for Information Technology	COMP602 Web Development	INFO602 Business, Interpersonal Communications and Technical Writing	COMP603 The Web Environment	INFO603 Systems Administration	COMP605 Data Structures and Algorithims
Year Two:									
Adapt technical knowledge and skills to a specific IT field, or to other IT fields		✓	✓	✓	✓	✓	✓	✓	✓
Employ creative skills and employ them in an organised approach to problem solving		✓	✓		✓		✓	✓	
Display critical thinking capabilities, including analysing, evaluating and critically reflecting on information, decisions and behaviour		✓		✓	✓	✓	✓	✓	✓
Apply independent learning skills that encourage the regular accessing of new knowledge and information			✓	✓	✓		✓		✓
Adapt to and work effectively in diverse cultural contexts and work environments		✓	✓		✓	✓	✓	✓	✓
Understand the relevance of the Treaty of Waitangi to IT in New Zealand/Aotearoa		✓				✓	✓		

Graduate Outcomes Statements	*Related Modules*	COMP606 Web Programming	COMP604 Routing and Switching Essentials	MATH602 Mathematics for Programming	INFO604 Database Systems	COMP607 Visual Effects and Animation			
Year Two continued:									
Adapt technical knowledge and skills to a specific IT field, or to other IT fields		✓	✓	✓	✓	✓			
Employ creative skills and employ them in an organised approach to problem solving		✓	✓		✓	✓			
Display critical thinking capabilities, including analysing, evaluating and critically reflecting on information, decisions and behaviour		✓	✓	✓		✓			
Apply independent learning skills that encourage the regular accessing of new knowledge and information		✓	✓	✓	✓	✓			
Adapt to and work effectively in diverse cultural contexts and work environments		✓	✓		✓	✓			
Understand the relevance of the Treaty of Waitangi to IT in New Zealand/Aotearoa						✓			

Graduate Outcomes Statements	*Related Modules*	INFO701 Project Management	BIZM701 Business Essentials for IT Professionals	COMP701 Advanced Networking	INFO703 Big Data and Analytics	INFO706 Database Front-End Applications	INFO708 Data Visualisation	COMP702 Scaling Networks	COMP706 Game Development
Year Three:									
Apply specialised technical knowledge and skills to a specific IT field, along with abilities for adapting and/or generalising these to other IT fields		✓		✓	✓	✓	✓	✓	✓
Apply a broad range of generic skills, principles and practices, and be able to mentor and motivate others in such applications		✓	✓		✓	✓	✓	✓	✓
Display well developed critical thinking capabilities, including analysing, evaluating and critically reflecting on information, decsions and behaviour. These abilities also enable strategic thinking and adaptability in a constantly changing global environment		✓	✓	✓	✓	✓	✓	✓	✓
Exercise self-direction and adopt independent working		✓		✓	✓	✓	✓	✓	✓

Graduate Outcomes Statements	*Related Modules*	INFO701 Project Management	BIZM701 Business Essentials for IT Professionals	COMP701 Advanced Networking	INFO703 Big Data and Analytics	INFO706 Database Front-End Applications	INFO708 Data Visualisation	COMP702 Scaling Networks	COMP706 Game Development
practices, and an ability to foster these in others									
Accept responsibility for the quality of their own work outcomes, and where applicable for the quality of others' work outcomes		✓		✓		✓	✓	✓	✓
Apply independent learning skills that encourage the regular accessing of new knowledge and information		✓	✓	✓	✓	✓	✓	✓	✓
Use effective written communication and well-developed interpersonal skills, and an ability to foster these in others		✓	✓	✓			✓	✓	
Work effectively in group situations, as a leader or a follower, as appropriate		✓				✓	✓		✓

Graduate Outcomes Statements	*Related Modules*	INFO707 Cloud Server Databases	COMP703 Network Engineering Project	COMP707 Principles of Software Testing	COMP710 Web Applications Development	INFO702 Cyber Security	COMP708 Software Engineering Project	INFO705 Database Architecture Project	COMP704 Network Security
Year Three continued:									
Apply specialised technical knowledge and skills to a specific IT field, along with abilities for adapting and/or generalising these to other IT fields		✓	✓	✓	✓	✓	✓	✓	✓
Apply a broad range of generic skills, principles and practices, and be able to mentor and motivate others in such applications		✓	✓	✓	✓	✓	✓	✓	✓
Display well developed critical thinking capabilities, including analysing, evaluating and critically reflecting on information, decsions and behaviour. These abilities also enable strategic thinking and adaptability in a constantly changing global environment		✓	✓	✓	✓	✓	✓	✓	✓
Exercise self-direction and adopt independent working practices, and an ability to foster these in others		✓	✓	✓	✓	✓	✓	✓	✓
Accept responsibility for the quality of their own		✓	✓	✓	✓	✓	✓	✓	✓

Graduate Outcomes Statements	*Related Modules*	INFO707 Cloud Server Databases	COMP703 Network Engineering Project	COMP707 Principles of Software Testing	COMP710 Web Applications Development	INFO702 Cyber Security	COMP708 Software Engineering Project	INFO705 Database Architecture Project	COMP704 Network Security
work outcomes, and where applicable for the quality of others' work outcomes									
Apply independent learning skills that encourage the regular accessing of new knowledge and information		✓	✓	✓	✓	✓	✓	✓	✓
Use effective written communication and well-developed interpersonal skills, and an ability to foster these in others			✓			✓			✓
Work effectively in group situations, as a leader or a follower, as appropriate		✓	✓	✓	✓		✓	✓	

Graduate Outcomes Statements	*Related Modules*	COMP709 Mobile Applications Development	COMP705 Connecting Networks	INFO704 Data-Warehousing and Business Intelligence	INFO709 Human Computer Interaction	COMP711 Web Development Project			
Year Three continued:									
Apply specialised technical knowledge and skills to a specific IT field, along with abilities for adapting and/or generalising these to other IT fields		✓	✓	✓	✓	✓			
Apply a borad range of generic skills, principles and practices, and be able to mentor and motivate others in such applications		✓	✓	✓	✓	✓			
Display well developed critical thinking capabilities, including analysing, evaluating and critically reflecting on information, decsions and behaviour. These abilities also enable strategic thinking and adaptability in a constantly changing global environment		✓	✓	✓	✓	✓			
Exercise self-direction and adopt independent working practices, and an ability to foster these in others		✓	✓	✓	✓	✓			

Graduate Outcomes Statements	*Related Modules*	COMP709 Mobile Applications Development	COMP705 Connecting Networks	INFO704 Data-Warehousing and Business Intelligence	INFO709 Human Computer Interaction	COMP711 Web Development Project			
Accept responsibility for the quality of their own work outcomes, and where applicable for the quality of others' work outcomes		✓	✓	✓	✓	✓			
Apply independent learning skills that encourage the regular accessing of new knowledge and information		✓	✓	✓	✓	✓			
Use effective written communication and well-developed interpersonal skills, and an ability to foster these in others			✓			✓			
Work effectively in group situations, as a leader or a follower, as appropriate		✓	✓	✓	✓	✓			

The following table details the standard structure of the programme.. All modules are available in semester one and semester two, allowing students' to progress through the programme, building on the knowledge, skills and attributes gained in previous modules regardless of their start date.

Year 1	Information Technology Operations (15-Credits)	Fundamentals of Programming and Problem Solving (15-Credits)	Professional Practice (15-Credits)	Business Systems Analysis and Design (15-Credits)
	Introduction to Networks (15-Credits)	Operating Systems and Systems Support (15-Credits)	Database Principles (15-Credits)	Technical Support (15-Credits)
Year 2	Object Oriented Programming (15-Credits)	Database Modelling and SQL (15-Credits)	Mathematics for Information Technology (15-Credits)	Web Development (15-Credits)
	Business, Interpersonal Communications and Technical Writing (15-Credits)	The Web Environment (15-Credits)	• Systems Administration • Data Structures and Algorithms • Web Programming • Web Programming (15-Credits)	• Routing and Switching Essentials • Mathematics for Programming • Database Systems • Visual Effects and Animation (15-Credits)
Year 3	Project Management (15-Credits)	Business Essentials for IT Professionals • Accounting • Marketing • Management (15-Credits)	• Network Security • Big Data and Analytics • Database Front-End Applications • Data Visualisation (15-Credits)	• Scaling Networks • Game Development • Cloud Server Databases • Game Development (15-Credits)
	• Network Engineering Project • Software Engineering Project • Database Architecture Project • Web Development Project (15-Credits)	• Cyber Security • Principles of Software Testing • Web Applications Development • Human Computer Interaction (15-Credits)	• Advanced Networking • Mobile Applications Development • Mobile Applications Development • Mobile Applications Development (15-Credits)	• Connecting Networks • Data-Warehousing and Business Intelligence • Data-Warehousing and Business Intelligence • Cyber-Security (15-Credits)

Key	
	Network Engineering pathway
	Software Engineering pathway
	Database Architecture pathway
	Multimedia and Web Development pathway

2.4 CENTRE CAPABILITY

2.4.1a CBITE history and approach

The Centre for Business, Information Technology and Enterprise (CBITE) was created in 2012 with the amalgamation of the School of Business and the School of Information Technology. Business, Information Technology and Enterprise are embedded in everything we do. To help drive economic growth across all sectors, nationally and internationally, people with a range of business and IT capabilities are always needed in the workplace. The Centre responds to this need by educating and up-skilling people with programmes and qualifications that have been developed in conjunction with employers from across the business, IT and enterprise sectors.

CBITE delivers internationally-recognised certificate, diploma, degree, graduate diploma and post graduate programmes with flexibility for full-time, part-time, online and evening study. The Centre works very closely with all stakeholders, internal and external, to provide the best quality teaching to meet their needs. We have strong links with employers through our Employer Partnership Groups (EPGs) and Industry Advisory Groups. Staff are highly qualified professionals with practical experience and are represented in as members of many professional bodies, such as IITP (Institute of IT Professionals), CITRENZ (Computing and Information Technology Research and Education New Zealand), CAANZ (Chartered Accountants Australia & New Zealand), CPA (Certified Professional Accountants), City & Guilds and AAPNZ (Association of Administrative Professionals New Zealand). Guest lecturers who are specialists in business, IT and enterprise regularly feature in our programmes.

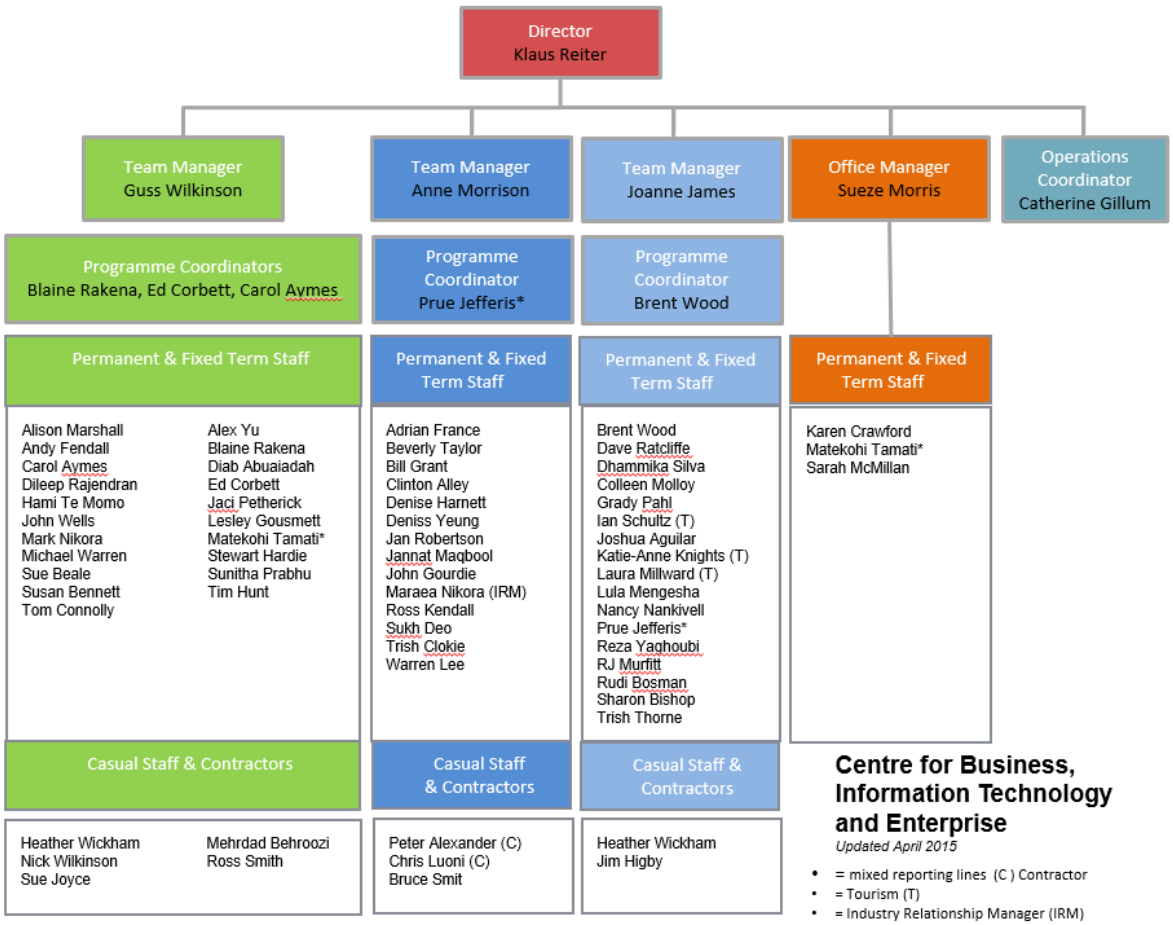
The Centre has grown considerably in the last three years and currently has over 1,800 enrolmentswith a wide mix of students from many countries with diverse backgrounds. The skills they learn at the Centre are applicable to any workplace, with graduates able to work in a wide range of industries around the world. In the Waikato region there are a large number of small and medium-sized businesses and offering flexibly-delivered programmes is critical to the ongoing viability of these businesses and the career development of their staff. Wintec's Graduate Destination Survey 2014 shows that graduates from the Bachelor of Information Technology are now working in roles such as Test Analysts, IT Service Engineers, Web Developer, Database Developers/Administrators, Software Developers and Systems/Business Analysts.

The goal at CBITE is to teach students' skills that are applicable to any workplace, now and into the future, and which have been developed in conjunction with employers from across business, IT and enterprise sectors.

2.4.1b CBITE management structure and staffing that supports the programme

The management structure at CBITE has been put in place to ensure quality checks of academic functions, teaching and learning occur systematically. All programmes are supported by the Centre Director, three Team Managers overseeing all academic staff and programmes, three academic administrators (supported by an Office Manager) and an Operations Coordinator who manages special projects within the Centre. Many Academic Staff Members have extra responsibilities, and these combined responsibilities across the Centre ensure that all pastoral, academic, administrative and managerial functions are well supported for all programmes offered by the Centre.

CBITE's organisational structure is depicted in the chart below:



2.4.2 Delivery of the Programme

The BAppIT programme reflects current thinking that the purposes of learning are best met when students take responsibility for their own learning. As well as tutor-directed learning, students take the initiative and the responsibility for what occurs as they individually select, manage and assess their own learning activities. Independent learning techniques are a crucial component of vocational education. Graduates must be able to extend their performance throughout their careers and the BAppIT programme is structured to provide a clear progression from dependent to independent learning.

Consistent with the teaching philosophy at Wintec, the BAppIT programme will have blended learning embedded in its delivery, and the type of technology and activities used during blended delivery will be dependent on what is professionally appropriate to the module. Blended delivery is part of Wintec's overall interactive approach to teaching and learning. In interactive delivery 80% of learning in a programme should be from direct experience, activity, engagement, projects and case studies. The tutors' role is that of the creator/manager of learning environments that will provide students with the experience of applying professional knowledge in ways that deliver supported graduated, authentic practice. Tutors will take the role of crafting and directing students to resources to support the learning.
Self-directed learning is planned to ensure students achieve quality results while managing their own use of time.

The programme is therefore facilitative and supportive rather than directive in its approach to teaching and learning, and will clearly model an empowering approach to practice that graduates will be expected to, in turn, apply in their interactions with their customers and clients.

A number of teaching and learning strategies will be used in the delivery of the programme. The following lists some of these strategies and explains their purpose:

- Group projects
  - Develop team work skills and allow students to tackle projects too large for an individual student to accomplish;
- Lectures
  - Present a rich and detailed variety of material, introducing, motivating and developing theory and knowledge;
- Demonstrations
  - Allow observation of procedures, techniques and an appreciation for the options available to them in their own work;
- Practical classes
  - Allow practice and mastery of skills and techniques under supervision. The specialised IT facilities within CBITE will allow students to develop IT/networking/database/web development and software development skills in a realistic environment;
- Discussion and self-evaluation
  - Encourage self-reflection, confidence, presentation skills and peer learning;
- Videos, movies, guest speakers, field trips and seminars
  - Offer insights into wider industry perspectives;
- Case studies
  - Assist development of appropriate skills and consolidation of learning and understanding;
- Experiential Sessions/Simulation Exercises /Role-plays
  - Demonstrate key ideas and processes and provide an opportunity to observe, practise and improve skills;
- Brainstorming, discussion and debate
  - Draw on expertise, stimulate ideas, determine level of understanding, validate knowledge and consolidate learning.

The programme and all component modules will be available for both full-time and part-time students; for all practical purposes no distinction will be made between them.

2.4.3 Practical or work-based components

Information Technology as a subject area is expanding and moving forward at a rate that few could have foreseen. The Traditional IT subject areas of Database Development, Software Engineering, Network Engineering, Multimedia and Web Development, and IT Soft Skills have now been joined by what IBM call the 'CAMSS' subjects:

- Cloud Computing
- Analytics and Big Data
- Mobile Development

- Security
- Social Media

The Centre, together with the IT Advisory Group, have developed the programme content around the four vocational specialisations of Network Engineering, Software Engineering, Database Architecture, and Multimedia and Web Development to align with these subject areas, including soft skills, that employers have clearly indicated they need graduates to have when entering the workforce. The modules for these specialisations will have teaching materials that will be collaboratively developed with industry, using genuine project scenarios. Additionally, module delivery will include guest lecturerers and guest speakers directly from the IT industry.

Internships and further project opportunities will be offered at the postgraduate level, and will build upon the skills developed in the degree programme.

2.4.4 Assessment

The aim of assessment in the BAppIT is to develop independent and confident students who are able to manage their own learning. Assessment is considered a key learning and teaching activity in the programme. It provides a means to:

- Evaluate student achievement against the learning outcomes;
- Provide feedback to students on learning outcome achievements, enabling the on-going evaluation of student performance.

The following are key features of the assessment strategies and practices in the programme:

- Assessment will be authentic, valid and reliable;
- Assessment will be timely and provide students with constructive feedback on their progress against stated learning outcomes;
- A range of assessment methods will be used;
- Assessment will test student knowledge, skills and abilities in an integrated manner against both learning outcomes and graduate capabilities;
- Assessment will be integrated into learning, through collaborative activities, projects and tasks;
- Assessment will use authentic tasks, contexts, case studies and problems appropriate to the level of the module;
- Assessment practices and methodologies will reflect the developing competence and independence of students as they progress through the programme;
- Formative and summative assessment will be used to facilitate student learning and inform teaching and delivery;
- Formative assessment will be used to ensure early feedback for students, to provide positive learning experiences and promote the on-going development and engagement of students;
- Achievement based assessment will be used in the programme.

A number of assessment strategies will be used in the BAppIT programme to adequately prepare and achieve the expected learning outcomes. The following lists some of these strategies and explains their purpose:

Tests

The purpose of these types of assessment is to judge the extent to which students are able to achieve the following in a given time-frame at an appropriate level of application:

- recall information and demonstrate understanding;
- organise and analyse information;
- exercise judgement;
- present, discuss and defend views effectively through formal written language;
- integrate and apply knowledge and skills.

Case Studies, Assignments, Oral Presentations, and Journals

The purpose of these types of assessment is to judge the extent to which students are able to:

- locate, obtain, organise, document and analyse information;
- identify and solve problems;
- exercise judgement;
- present, discuss and defend views effectively;
- transfer and receive information effectively;
- communicate and influence others;
- work co-operatively;
- integrate and apply knowledge and skills;
- reflect on their learning;
- plan, organise and manage time;
- research new topics, evaluate alternative methodologies, and design innovative solutions;
- develop and make a presentation to an audience.

Self and Peer Assessment

Self and peer assessment may be used for assessments where prescribed standards are applied by the student or their peers to their own and others' work.

Reflective Exercise

The purpose of this type of assessment is to assess the extent to which students are able to evaluate experience in the light of theories, research and practice.

The module descriptors (see Section 2.6 Module Summary and associated Module Descriptors) describe the specific assessment methods.

The Programme Committee (PC) will approve assessment changes if they are in the demonstrated best interests of students.

Ratification of Results

All academic staff will be involved in PC results meetings held at the end of each semester to evaluate module and programme results including the range of module grades and the success and retention of students. These results will then be approved by the Programme Committee before publication to students as per Academic Regulations, section AR: 4 Assessment, sub-section AR: 4.11.

Grades may be allocated according to the level of achievement, in which case results may be specified as follows:

Grade	Achievement Level	Explanation
A+	85-100	
A	80-84	
A-	75-79	
B+	70-74	Passing grades
B	65-69	
B-	60-64	
C+	55-59	
C	50-54	
D	40-49	Failing grades
E	0-39	

Policy and procedures for late assignments

Extensions should be applied for before the due date of the assignment.

Last -minute extensions due to sudden occurrences beyond the students' control (such as illness) will be considered on a case-by-case basis.

Return of marked work

Marked assignments or other assessed work will be available to students within 20 working days of the assessment taking place or being due (as per Academic Regulations AR:4.2).

The Wintec Academic Regulations Section AR:4 Assessment, and the Assessment and Moderation Policy AC-11/05 apply to all aspects of assessment in this programme, including: definitions, conduct of tests and examinations, grades and results, reconsideration of results, and return of assessments.

2.4.5 Moderation

Wintec recognises the importance of moderation and has developed policy, process and procedures for moderation of modules. It is expected that all modules will be moderated on a three year cycle to ensure the validity, feasibility and reliability of the assessments, and that assessment grading is fair, impartial and consistent.

Quality assurance within CBITE is established and maintained through a number of mechanisms. The Moderation Cycle outlines a continual process of planning and review which reflects our moderation philosophy. Moderation processes are designed to ensure that the assessment of a student's academic performance is fair and impartial and that standards are comparable between classes and with those of other providers of similar modules. These processes involve tutors cross-checking each other's assessments with regard to content, mark allocation, consistency and meeting the stated learning outcomes. Staff will be advised of the moderation timeframe at the start of each semester,and will be encouraged to build their capability in moderation as part of the teaching quality framework. For the BAppIT programme, the Team Manager will submit a moderation schedule to the Programme Committee for approval and actioning each year.

Figure 2.4.5.1 The Moderation Cycle

Pre-moderation

Premoderation of assessments will occur on every third delivery unless the assessment is changed or the tutor is new to the module. In this case it will be moderated earlier.

Internal Post-Moderation

Internal moderation is one mechanism for monitoring the quality of the BAppIT programme. Samples of completed assessments, module outline, and all assessment and marking documentation will be submitted to an appropriate academic peer for qualitative analysis, including marking consistency. All assessments of all modules should be subject to internal post assessment moderation at a minimum of every third offering, and in line with Wintec policy.

External Moderation

All modules are externally moderated on a rotating basis within the three year cycle. An external moderator is a recognised authority, generally a senior academic in another tertiary institution, in the field involved.

External moderation processes of the Centre will be followed. This will involve the moderator reviewing module outlines and a sample of students' assessments, and completing a written report to be submitted back to the Programme Committee. For this programme, the external moderator will be Computing and Information Technology Research and Education New Zealand (CITRENZ).

External moderators' reports will reflect on the conduct of the assessments concluded and on issues related to assessment including the following:

- the overall performance of the students in relation to their peers on comparable courses of study;
- the strengths and weaknesses of students;
- the quality of knowledge and skills (both general and subject specific) demonstrated by the students;
- the structure, organisation, design and marking of all assessments;
- the quality of teaching as indicated by student performance;
- the suitability of the assessments for the curriculum, syllabus, teaching methods and resources of the modules;
- any other recommendations arising from the assessments.

2.4.6 Assessment of Student Research

The Bachelor of Applied Information Technology will utilise an enquiry based pedagogy where students are expected to solve real-world problems by investigating and applying best practice relevant solutions. Subject matter experts will assess the viability and robustness of solutions through practical and theory assessments.

2.4.7 Facilities, Resources and Technologies that support the programme

Wintec is a well-equipped modern ITP and all facilities are readily available to all students at Wintec. There are adequate physical and safety resources, and financial and administrative needs are met through the QMS (Quality@Wintec).

A range of lecture theatres and classrooms are available throughout the Institution. There are three main lecture theatres (C16, C17 and C18) on the City Campus. All theatres are equipped with computer/s, sound system, lectern, and wireless microphones. All equipment is operated through a touch panel control system and are projected onto large screens. Each theatre also has a data projector and a whiteboard. Lecture rooms/theatres are of varying sizes to cater to student demand.

Classroom resources include:

- whiteboard
- data projector and screen
- PC and/or computers on wheels and/or laptops.

Specialised computer rooms are available to ensure that students are trained according to the latest instruction methods and technology. Computer Laboratories with appropriate software applications are available and are subject to on-going updating on a regular basis.

Wintec provides library resources and support. Wintec librarians support students in all aspects of searching for published information. They offer student support in learning how to undertake digital searches of:

- Library print collections
- Digital databases
- Research repositories including evidence-based sites
- Electronic books.

Wintec also maintains and supports a network system with software packages (e.g. Microsoft Office) for staff and student use. Students have access to the network in the City Campus Hub, the Rotokauri Campus Hub, and other computer labs at all Regional campus sites.

CBITE (IT) Independent Computer Laboratories

Resource Description:

- Independent Network (Independent VLAN within the Wintec Enterprise Network)
- Independent Server Farm – Both Real and Virtual
- Four Self-contained Laboratories (20 – 24 Student positions)
- Two constructed with Anti-static Properties
- Independent Internet Access
- Supported by Dedicated Network Engineer

Laboratory Resources:

- Two Labs equipped with High Specification PCs
- One (Potentially Two) Lab(s) equipped with Cisco Routers and Switches
- Three Labs equipped with additional Removable Hard Drive PCs
- Additional PCs available for Assembly/Disassembly
- Electronic Laboratory Test Equipment
- Electronic Circuitry Assembly/Testing Equipment/Stations
- Student access to Network Administration Rights

Teaching Utilisation:

- Games Programming utilising High End Processing and Graphics
- Multimedia utilising High End Processing and Graphics
- Database Design, Server Installation and Administration
- LAN Design, Construction and Administration (including Domain Controllers and Security Firewall Servers)
- WAN Simulated Design, Construction and Administration
- Operating Systems (OS) Installation and Administration (including Multiple Concurrent Operating Systems)
- Network Operating Systems (NOS) Installation and Administration
- Network Hardware Construction and Maintenance

Wintec Enterprise Laboratory Resources (City Campus):

- The Wintec Enterprise Network hosts 15 Computer Labs of various sizes, ranging from 20 – 30 Student Workstations and Bring Your Own Devices (BYOD) services are available Campus wide.
- Additionally the Student Hub on the City Campus provides around 120 PCs and MACs for 24 hour/7 day student use.

2.4.8 Monitoring

Wintec has systems to ensure an educationally sound process for the development, approval, and review of all programmes and modules, which includes appropriate consultation with stakeholders. In addition to NZQA and Professional Body mandated external reviews, the Centre implements an internal review process to ensure all programmes stay relevant and current, and to continuously improve students' education experiences at Wintec.

The programme will be monitored by an independent external academic. The monitor will be responsible for reassuring NZQA and all stakeholders that:

- The degree is being implemented and managed as planned and presented at the time of the approval and accreditation;
- Appropriate consideration is given to any recommendations made by the approval and accreditation panel;
- Any minor modifications and enhancements made will continue to be consistent with the intent of the programme and the ongoing development of a quality programme;
- The Monitor will have input during any reviews and significant enhancements of and to the programme;
- NZQA will be made aware of issues affecting the satisfactory provision of the programme.

Monitoring will involve:

- Informing the monitor of any significant changes to the programme;
- Providing a copy of the Annual Programme Evaluation Report (APER) to the monitor
- A visit from the monitor on an annual basis, or as agreed upon during the approval and accreditation process;
- The completion of a Report by the Monitor;
- Responding to feedback, requirements and/or recommendations received through the Monitor's Report;
- The Monitor submitting the reports to NZQA for review and comment.

Programme review

The programme will continue to be subject to a five-yearly review, to be undertaken by a review panel in conjunction with the degree monitor. A Report will be prepared by the panel for Wintec.

Ongoing consultation with learners, industry, Māori stakeholders

Student forums, industry advisory groups, employers and Māori stakeholder groups are regularly used as mechanisms for consultation with stakeholders.

Policies supporting monitoring

The Quality and Academic Unit maintains a central schedule of reviews to ensure consistency and continuance of reviews, and the Faculty, in collaboration with wider Wintec, ensures that recommendations from reviews are fed into the appropriate planning cycles to ensure actual improvement.

Wintc has the following policies supporting monitoring and reviews:

- OP-05/17 Programme Sustainability
- AC-96/03 Reviews of Degrees and Post Graduate Qualifications
- AC-96/01 Monitoring of Degrees and Post Graduate Qualifications
- AC-10/10 Programme Development and Change
- AC-98/08 Changes to Existing Modules and Programmes

2.4.9 Programme Self-Assessment

Wintec has systems to ensure an educationally sound process for the development, approval, and review of all programmes and modules, which includes appropriate consultation with stakeholders. Retention and success strategies are part of the continuous improvement processes for CBITE and within the BAppIT programme. Strategies that have proven successful in the existing programmes will continue to be used in the BAppIT. Student pass and retention rates will be monitored through each semester then reported on and compared for modules and for the programme.

A number of specific strategies will be used to address retention and success. These include:

- An interview process will be available on application to counsel the appropriate choice of programme, to determine whether any specific support is required and to ensure students are well informed about the programme's demands and requirements. Whanau/family will be invited to accompany applicants to these interviews.
- Structured orientation to Wintec, the programme and the student support services.

- Learning and teaching strategies purposefully selected to support student learning and success and provide an open environment in which the experiences students bring to their studies are valued.
- Use of electronic registers to monitor attendance and send a text to those who have missed class.
- Learning support services will be used for self or lecturer referred academic support. This will include mentoring by successful senior students.
- Other networks such as Te Kete Kōnae (Maori and Pasifika support unit) will provide students with formal and informal opportunities to interact with other students and staff to support their study and attendance.
- Staff will support and encourage student achievement both in the classroom and in their other interactions with students.
- Staff allocate 2 hours a week for student drop in time for out of class support.
- CBITE has a dedicated 0.2 position as the Centre Kaiawhina.
- Peer support is available for students through Student Learning Services.
- The Graduate Destination Survey and formal module evaluations (SETMAPs) will provide on-going insight into the student experience of the programme.

There will be a particular focus on those modules and demographic groups within the programme with particularly low or particularly high pass rates to enable effective practice to be shared.

Actions and strategies initiated to ensure the robustness of the programme will be reported at Programme Committee and in the Annual Programme Evaluation Report (APERs). An APER is used as a mechanism for analysing programme sustainability. Programme sustainability is a planned intervention process to ensure the ongoing well-being and viability of programmes within the Institute, and provides an effective way of making quality decisions about the future of programmes.

A combination of financial and non-financial factors needs to be considered when assessing the well-being and viability of a programme. Some of these considerations include enrolment and completion rates, student satisfaction rates, financial viability, academic quality and strategic alignment with Strategic Plans and Profiles.

APER's are also used for the monitor and to meet the reporting requirements for NZQA of degrees and related qualifications. In order to ensure that all information required for monitoring purposes is covered and to standardise monitoring reports across the institute the APER is used every year for reporting on all degrees and related qualifications.

Evaluation methods

A range of evaluation tools will continue to be used for self-assessment and evaluation of teaching, modules and the programme. These could include:

- Standardised Student Feedback: This is where both full-time and part-time students are offered the opportunity to give written feedback at the end of each module and at the completion of the programme by completing a Student Evaluation of Teaching, Module and Programme (SETMAP) survey.
- Student Forums: This involves a meeting between student representatives from all programmes running within the Centre with the Centre Director. Representatives from support departments at Wintec (such as ITS, Student Support) can also attend. These are held four times each year.

The results of these evaluations will be discussed by the Programme Committee, and if there is a requirement and/or recommendation for change(s) to be made, the Programme Committee will address this through the formal change process. Students will be consulted on the feedback received and on any changes made as a result of the feedback.

The Graduate Destination Survey and employer satisfaction surveys will also be continued. The Graduate Destination Survey provides information about employment status of graduates and the perceptions of graduates in regard to their programme of study. The annual Industry and Employer Survey conducted to determine the importance of various skills and attributes of Wintec graduates who are in employment.

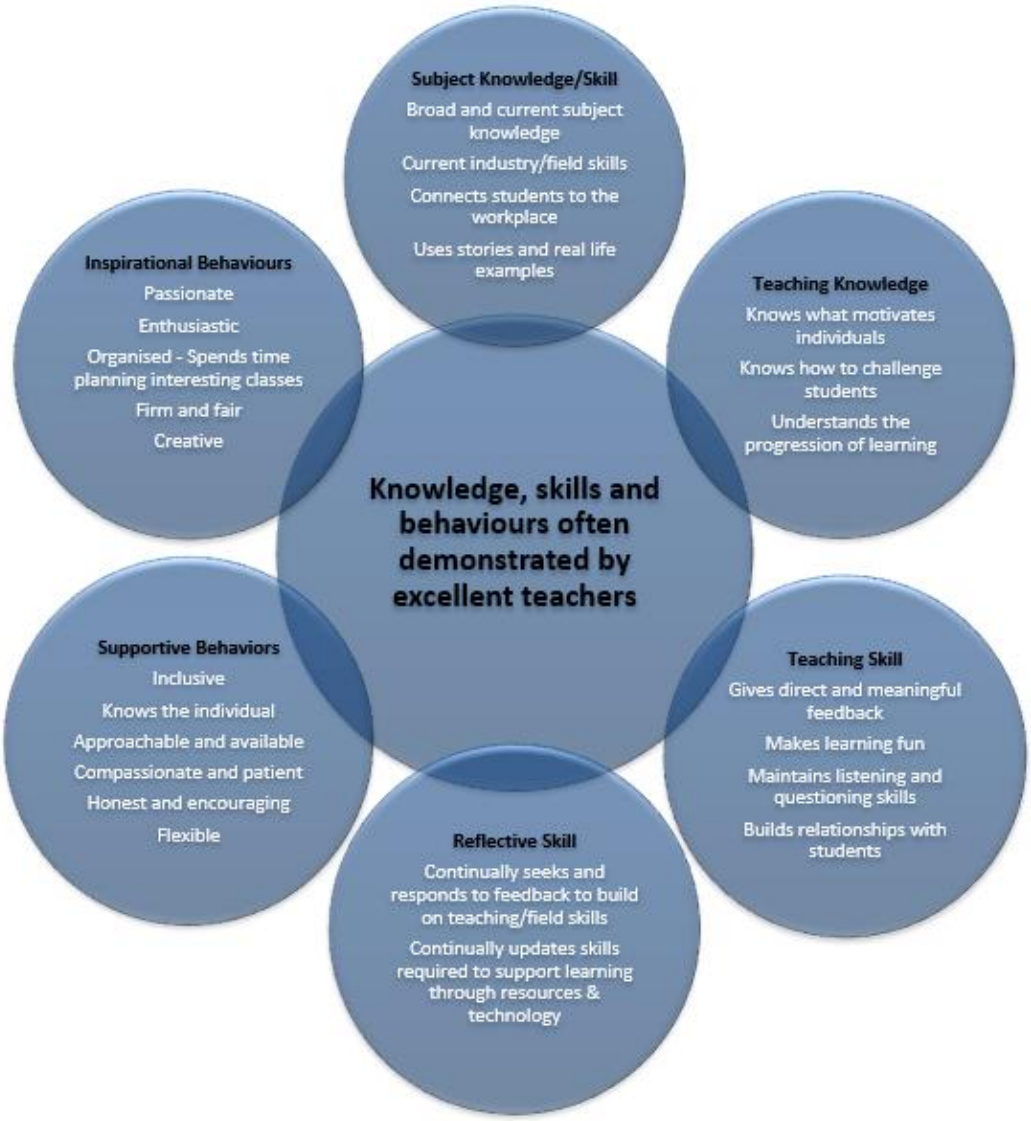
Teaching Quality Self-Reflective Framework

The Self Reflective Framework is a developmental tool which uses critical reflection to enable tutors to review their own practice, recognise excellent teaching and help identify teaching areas they would like to work on. The intention is for this on-going reflection to promote continuous improvement in teaching and learning at Wintec.

The key questions for reflection relate to Wintec's strategic priorities and reflect the knowledge, skills and behaviours of excellent teachers as identified by feedback from staff, students and Employer Partnership Group (EPG) members. The statements in the Excellent Teaching column are taken from the NZQA External Evaluation and Review (EER) model and are used throughout the ITP sector.

The expectations of quality teaching are well supported by relevant literature. The diagram below describes the key knowledge, skills and behaviours that staff identified as teaching excellence, placed within a teaching and learning context.

Figure 2.4.9.1 Knowledge, skills and behaviours often demonstrated by excellent teachers



2.4.10 Staff Research

The Centre has a strong research culture and the focus is on supporting teaching and learning. Research opportunities for staff contribute to their professional development which helps inform their teaching and programmes. This also provides scope for collaboration with other providers both nationally and internationally. Research also enables the Centre to contribute meaningfully to Wintec's research outputs and improve Wintec's PBRF ratings in the next round. Research undertaken by staff within CBITE is also shared collaboratively with all staff at Wintec. CBITE has recently employed two new academic staff members to teach on the proposed BAppIT, both of whom are research active and have a publication history. One will start in semester 2, 2015 and the other will start in semester 1, 2016. For current staff members who have been research inactive for a while, plans have been put in place to produce additional outputs by the end of 2015.

Research is closely tied to Wintec's strategic direction of real-world research. Wintec views research as original investigation undertaken in order to contribute to knowledge and understanding and, in the case of some disciplines, cultural innovation or aesthetic refinement. It typically involves inquiry of an experimental or critical nature driven by hypotheses or intellectual positions capable of rigorous assessment by experts in a given discipline. Its findings must be open to scrutiny and formal evaluation by others in the field, and this may be achieved through publication or public presentation.

Within CBITE, a Principal Academic Staff Member (PASM) has the role of Research Leader. The PASM in this role has an allocation of time, and is responsible for coordinating research activities, helping staff to understand the process of doing research, and encouraging staff to work in groups on themes and on long term projects. The Research Leader also assists with the mechanics of doing research such as reporting, presenting and collaborative engagement. Staff undertaking research may receive time release and / or funding for the research. Supported staff research is required to lead to measurable outcomes, usually work which can be published, publically disseminated, presented or exhibited.

The Research and Postgraduate Office supports both Wintec staff and students by providing services including ethics and funding application support (both internal and external), research project management, administration support and access to a number of research tools. The Research and Postgraduate Office has an embedded capability to oversee and/or support both researchers and industry/community clients in doing research and development to solve practical, real world problems, answer real world questions, or develop ideas that makes a difference in real world environments.

The Centre operates across a rich range of applied ICT practice and theory: multimedia, web programming, design and development, mobile application development and software. The breadth of the Centre's applied and academic knowledge, combined with a growing suite of postgraduate programmes and industry/community engagements offer a unique platform for a productive research culture. To ensure research outputs are met, the Centre utilises the Research and Postgraduate Office's Milestone Management system. This system allows each staff member to manage multiple outputs by tracking each milestone within the research. Outputs are tracked automatically with reminders sent to staff when milestones are due.

To ensure research is relevant and meaningful, both to the Centre and the researcher, research staff discuss their research goals with their Team Managers during their annual career development planning meeting. Clear goals and outcomes are mutually agreed upon. Regular discussions throughout the year allow outcomes to be tracked with support structures established or goal outcomes adjusted if required.

A copy of the CBITE staff research capability and Centre Research Plan 2015 is contained in Volume 4, appendix 4.4: Documents Supporting the Development and Evaluation of Teaching Programmes. CBITE will fully support academic staff who are not currently engaged in research to undertake research from 2015.

2.4.11 CBITE staff relevant to the programme:

<table>
<tr><th>Staff</th><th colspan="3">Staff Profile</th></tr>
<tr><td rowspan="6">Diab Abuaiadah</td><td colspan="3">Capabilities / Capacity</td></tr>
<tr><td>Qualifications</td><td colspan="2">Experience (e.g. Work)</td></tr>
<tr><td>Ph.D., 1996, Department of Computer Science, The University of Sydney, Australia.
Master of Science, 1991, Department of Computer Science, Ben Gurion University, Israel.
PostGraduate Certificate, 2014, Waikato University.
Bachelor of Sciences, 1988, Department of Computer Science, The Hebrew University, Israel.</td><td colspan="2">February 2012 – Current, principle staff member, Wintec, new Zealand
March 2010 – August 2011, senior lecturer, Taylor’s university, Malaysia.
January 2007 – March 2010, private project and casual lecturer, (Australia and Israel)
April 2006 – January 2007, research staff member, Bloomberg, TEL Aviv, Israel.
June 2001 – April 2006, scientist, ibm haifa research lab, haifa,israel
2000 – June 2001,Senior software engineer, Hyperion, California, usa
1996-2000, Scientist, IBM haifa research lab, Haifa, Israel</td></tr>
<tr><td colspan="3">Research Activities</td></tr>
<tr><td>Capabilities (e.g. supervisor)</td><td colspan="2">• Information retrieval and data mining algorithms: Document classification and clustering algorithms
• Reviewer of a conference and a journal
• Editorial board member for a conference</td></tr>
<tr><td colspan="2">Outputs</td><td>Alignment to Programme</td></tr>
<tr><td colspan="2">2015 – Editorial board - Conference
2015 – Reviewer – Journal + conference</td><td>The software I develop for the data mining algorithms are used for teaching professional programming practice.</td></tr>
</table>

	2015 – Submitted two papers for publication Abuaiadah, Diab and El - Sana, Jihad and Abusalah, Walid (2014) On the impact of dataset characteristics on Arabic document classification. International Journal of Computer Applications, 101 (7). pp. 31-38. ISSN 973-93-80883-68-9 Abuaiadah, Diab (2013) Arabic document classification using multiword features. International Journal of Computer and Communication Engineering (IJCCE), 2 (6). pp. 659-664. ISSN 2010-3743	
Ed Corbett	**Capabilities / Capacity**	
	Qualifications	**Experience (e.g. Work)**
	Senior Technician telegraph, *New Zealand Post Office Wellington* Certificate Tertiary Teaching, *Waikato Polytechnic Hamilton* Cisco CCNA Instructor, *Box Hill TAFE Melbourne*	15 Years Training Instructors/Teaching 2001 – 2012: Cisco Qualified Instructor Trainer 2001 – Current: Cisco Qualified Student Instructor 20 Years Tertiary Teaching 1995 – Current: Tertiary Teaching Computer Networking NZQA Levels 3, 5, 6 & 7 2004 – Current: Principal Academic Staff member 25 Years New Zealand Post Office/Telecom 1966 – 1995: Installation and Maintenance of Telegraph and Computer Networks and Terminal Equipment
	Research Activities	
	Capabilities (e.g. supervisor)	2001-2011 - The Waikato Polytechnic/Waikato Institute of Technology- Programme Manager 2005-Current –NACCQ/CITRENZ National Moderator

		2006-2011 - The Waikato Polytechnic/Waikato Institute of Technology- Team Leader 2011-Current - Waikato Institute of Technology - Programme Co-ordinator

Andy Fendall	Capabilities / Capacity	
	Qualifications	Experience (e.g. Work)
	Technicians Certificate In Information Technology *Wintec* Certificate In Adult And Tertiary Education *Wintec* Diploma In Adult Learning And Teaching *Wintec* Batchelor Of Information Technology *Wintec* National Certificate Adult Literacy Education(Vocational) *ATC* A+ *COMPTIA –Relevant Industry Qualification* Cisco Certified Network Associate *Cisco Systems –Relevant Industry Qualification* Certified Cisco Academy Instructor - *Cisco Systems –Relevant Industry Qualification* Microsoft Certified Systems Administrator *Microsoft –Relevant Industry Qualification*	Studio Operator *Radio New Zealand 1981-1989* Systems Engineer *Wintec (IT Dept) 1998 – 2003* *Lecturer 2003 – 2013* *Senior Lecturer 2013 – present* Software Developer *Software Machine 2000 – present* *-author of radio station software and Moodle quiz creation software* *-Author of mobile apps for Power monitoring*
	Research Activities	
	Outputs	Alignment to Programme
	Low-cost Rapid Authoring Tool for Moodle Quizzes An Assisted Living application utilizing electricity consumption. Assisted Living: Domestic Power Monitoring utilising Home Automation Products and Cloud Storage	Batchelor Of Information Technology

	Capabilities / Capacity	
	Qualifications	Experience (e.g. Work)
Lesley Gousmett	Bachelor of IT – tentative finish, 2016, *Wintec* GDITE – 2014, *Wintec* Certificate in Adult Teaching, 2012, *Wintec* Diploma In Adult Learning And Teaching, 2012, *Wintec* NCALE – Wintec, 2012-13 Microsoft Certification - SQL Server, DBA Administrator, 1998 Crystal Reports Certificated Developer – 1998	WINTEC, Hamilton – June 2009 to current – SASM – specialising in teaching of Computer Programming (NCC, Diploma, Degree, Grad.Dip). I am fluent in VB.Net, C#, Java, Javascript, Phrogram, HTML, VBA and I have an expert working knowledge/application of all of the Microsoft Office Applications (Excel,PowerPoint, Access, Project). I also have a high level of expertise in developing interactive e-learning resources and using a LMS platform such as Moodle WAIARIKI Polytechnic, Rotorua (Feb 2008 – Feb 2010). Lecturer/Tutor specialising in teaching programming on the degree paper (Level 4 and Level 5) and also taught Business Analysis and Design (Level 6), Project Management (Level 7) along with Microsoft Excel and Microsoft Access (levels 2, 3, and 4) for the School of Business. Whilst at Waiariki, I also ran a number of training sessions for staff SELF-EMPLOYED Database / Applications Developer (April 2004 to June 2009). During this period I was successful in obtaining contracts for some companies/organisations in Rotorua (Kaingaroa Timberlands, Wood Quality Initiatives, ACC, Ngati Piakao). The contracts involved designing and developing back-end databases in MSSQL, deploying on a centralised, web-based server and designing/developing the front-end applications and reporting systems. Whilst contracted to Kaingaroa Timberlands, I also developed a Data Warehousing System which had significant cost-savings of 40 man-hours per week, within a few weeks of having started development

	August 1992 – April 2004 (Interpine Forestry / Awdon Technologies). Role: Software Developer/Systems Analyst and Project Management. During this time, I developed a number of data entry applications to facilitate the collection of data out in the field. rudimentary reporting within the field applications allowed for the immediate feedback of real-time data. I was an integral member of the team which pioneered the development of a hand-held, optimisation tool. This development involved the integration of application software on the hand-held device, electronics for automated reading of measurements, all controlled by an MSSQL Database along with web-based reporting tools and desktop applications. Developed and delivered training courses. Matapuna Training Centre, Gisborne (July, 1988 – August 1992) Business programme co-ordinator and tutor. this was a varied role involving the development of courses/course materials and teaching. In 1991, I was involved in writing some of the initial NZQA prescriptions J Wattie Canneries Ltd, Gisborne (Nov, 1975 to Feb, 1988). Initially started as a Distribution clerk where I developed a number of systems which not only streamlined the day to day operations but increased productivity. I was head-hunted by the Financial Controller and developed a number of spreadsheet applications (in Lotus 123 – 1984-1986) and worked alongside the cost accountant and management team
Research Activities	
Capabilities (e.g. supervisor) ☞	Supervisor for third year project students executed some projects for the research office which involved developing a web application /database system for Rotorua Boys' High School and an online reporting repository for Hamilton plumbers/trades association

Tim Hunt

Capabilities / Capacity	
Qualifications	Experience (e.g. Work)
Doctor of Philosophy (Ph.D.), Electrical and Electronics Engineering, *University of Surrey* Bachelor of Science (Hons), Electrical and Electronics Engineering, *University of Surrey* National Certificate in Adult Literacy Education, *Waikato Institute of Technology* Certificate in Adult Learning & Teaching, *Waikato Institute of Technology* NCALE, *Waikato Institute of Technology* Certificate in Project Management, *The New Zealand Institute of Management*	Principal Lecturer, *Waikato Institute of Technology*, March 2000 – Present Consultant, *Realtime Information Ltd*, 1998 – 2000 IT Consultant, *University of Waikato*, 1994 – 1998 Customer Support Engineer, *Compsoft,* 1993 – 1994 Postdoctoral Fellow, *University of Surrey,* 1990 – 1993 Scientist, *Plessey Company plc*, 1987 – 1990

Research Activities	
Outputs	Alignment to Programme
A minimally intrusive monitoring system that utilizes electricity consumption as a proxy for wellbeing Hunt, Tim D. and Rajendran, Dileep and Nikora, Mark and Bennett, Susan and Fendall, Andy (2014) A minimally intrusive monitoring system that utilizes electricity consumption as a proxy for wellbeing. Journal of Applied Computing and Information Technology, 18 (2). ISSN 2230-4398. Are you OK? An Android application for assisted living. Rajendran, Dileep and Hunt, Tim D. and Nikora, Mark and Bennett, Susan (2013) Are you OK? An Android application for assisted living. In: CITRENZ2013: 26th Annual Conference of Computing & Information Technology Research & Education New Zealand: Engaging With Communities, 6-9 October, 2013, Hamilton, New Zealand.	My interest in research has covered many aspects giving me a broad understanding of the role of research in creating a new technologies. In particular my research has been involved with a number of the core areas of the programme including: Programming, databases, artificial intelligence, testing, User interface, cloud, data analytics, mobile technologies, algorithms and ethics.

A novel spell checking algorithm for non-segmented languages.

Hunt, Tim D. and Rakena, Blaine and Wang, Kevin (2013) A novel spell checking algorithm for non-segmented languages.In: CITRENZ2013: 26th Annual Conference of Computing & Information Technology Research & Education New Zealand: Engaging With Communities, 6-9 October, 2013, Hamilton, New Zealand.

Utilising home electricity usage as a low intrusive wellbeing monitor

Hunt, Tim D. and Rajendran, Dileep and Nikora, Mark and Bennett, Susan (2013) Utilising home electricity usage as a low intrusive wellbeing monitor. In: Proceedings: Global Healthcare (GHC). GSTF.

Assisted living presentation medicine reminder

Nikora, Mark and Hunt, Tim D. and Rajendran, Dileep and Bennett, Susan (2013) Assisted living presentation medicine reminder Maori Research Symposium programme. In: Wintec Maori Research Symposium , Friday 8 November 2013, Te Kōpū Mānia o Kirikiriroa marae, Wintec, Hamilton, New Zealand.

Cost effective software internationalisation

Hunt, Tim D. (2013) Cost effective software internationalisation. Journal of Applied Computing and Information Technology, 17 (1). ISSN 1174-0175.

Assisted living

Hunt, Tim D. and Rajendran, Dileep (2012) Assisted living. In: CITRENZ 2012: 3rd Annual Conference, incorporating the 25th Annual NACCQ Conference, 7-10 October, 2012, Christchurch, New Zealand.

Using email to teach literacy

Hunt, Tim D. and Cartner, Marg and Menon, Sreelatha (2011) Using email to teach literacy. In: Proceedings of the 2nd Annual Conference of Computing and Information Technology Research and Education in New Zealand (CITRENZ): Incorporating the 24th Annual Conference of the National Advisory Committee on Computing Qualifications. Computing and Information Technology Research and Education in New...more

Any language you choose internationalization of a children's email application

Hunt, Tim D. (2011) Any language you choose internationalization of a children's email application. In: Proceedings of the 2011 International Conference on Engineering and Information Management. Institute of Electrical and Electronics Engineers (IEEE), Chengdu, China, V3-34-V3-38. ISBN 9781424497706.

Implementing a UUID primary key in a distributed email client application.

Hunt, Tim D. (2010) Implementing a UUID primary key in a distributed email client application. In: Proceedings of the 1st Annual Conference of Computing and Information Technology Education and Research in New Zealand (CITRENZ): Incorporating the 23rd Annual Conference of the National Advisory Committee on Computing Qualifications. National Advisory Committee on Computing Qualifications (NACCQ),...more.

Natural or artificial primary key? Using the Mifrenz children's email application as a case study.

Hunt, Tim D. (2010) Natural or artificial primary key? Using the Mifrenz children's email application as a case study. The New Zealand Journal of Applied Computing and Information Technology (NZJACIT), 14 (1). pp. 16-23. ISSN 1174-0175.

Mifrenz: Safe email for children.

Hunt, Tim D. (2008) Mifrenz: Safe email for children. The New Zealand Journal of Applied Computing and Information Technology (NZJACIT), 12 (1). pp. 39-51. ISSN 1174-0175.

Where are Mifrenz?

Hunt, Tim D. (2008) Where are Mifrenz? In: Proceedings of the Twenty First Annual Conference of the National Advisory Committee on Computing Qualifications. National Advisory Committee on Computing Qualifications, pp. 219-224.

Multi-choice question assessment with time delay.

Hunt, Tim D. and Matheson, Rosanne S. and Christie, Derek (2007) Multi-choice question assessment with time delay. The New Zealand Journal of Applied

Computing and Information Technology (NZJACIT), 11 (1). pp. 23-32. ISSN 1174-0175.

Mifrenz: A new email client application for children.

Hunt, Tim D. (2007) Mifrenz: A new email client application for children. In: NACCQ07: Proceedings of the 20th Annual Conference of the National Advisory Committee on Computing Qualifications. National Advisory Committee on Computing Qualifications, Hamilton, New Zealand, pp. 99-105.

Novel enhancement to multi-choice question assessment.

Hunt, Tim D. and Matheson, Rosanne S. and Christie, Derek (2006) Novel enhancement to multi-choice question assessment. In: Proceedings of the 19th Annual Conference of the National Advisory Committee on Computing Qualifications. National Advisory Committee on Computing Qualifications, Auckland, New Zealand, pp. 135-138.

Time to enjoy: Go with the flow.

Hunt, Tim D. (2005) Time to enjoy: Go with the flow. In: Proceedings of the Eighteenth Annual Conference of the National Advisory Committee on Computing Qualifications. National Advisory Committee on Computing Qualifications, pp. 189-192. ISBN 0473101394.

Development of a custom software regression-testing tool: Ensuring a robust system for the management of electricity energy market delivery.

Hunt, Tim D. and Ensor, Peter (2004) Development of a custom software regression-testing tool: Ensuring a robust system for the management of electricity energy market delivery. In: Proceedings of the Seventeenth Annual Conference of the National Advisory Committee on Computing Qualifications. National Advisory Committee on Computing Qualifications, pp. 104-111. ISBN 0476007267.

Selection of an internet content filtering solution using the analytic hierarchy process

T. D. Hunt, H. Wickham, K. Murphy and M. Elrick, "Selection of an internet content filtering solution using the analytic hierarchy process", Proceedings of

the 16th Annual NACCQ. Palmerston North New Zealand July 2003, 281-286 ISBN 0-473-09673-0.

Writing Software for Genome Sequence Characterisation

T. Hunt and D. R. Musgrave, "Writing Software for Genome Sequence Characterisation", New Zealand Journal of Applied Computing and Information Technology. Vol 7, Issue 1, 35-41, 2003.

DNA Sequence Analysis: The Development of a Custom Software Tool

T. D. Hunt and D. R. Musgrave, “DNA Sequence Analysis: The Development of a Custom Software Tool”, Proceedings of the 15th Annual Conference of the National Advisory Committee on Computing Qualifications, 2nd – 5th July 2002, 37-47, ISBN 0-473-08747-2.

Fabrication and evaluation of ternary Co-Fe-Si structures produced by ion beam synthesis

T. D. Hunt, J. Hanebeck, K. J. Reeson, K. P. Homewood, R. M. Gwilliam, B. J. Sealy, C. D. Meekison and G. R. Booker, "Fabrication and evaluation of ternary Co-Fe-Si structures produced by ion beam synthesis", Materials Research Society Symposium Proceedings, Vol 279, 893-898, 1993.

Ion beam synthesis of a and b FeSi2 layers

T. D. Hunt, K. J. Reeson, K. P. Homewood, R. J. Wilson, R. M. Gwilliam, B. J. Sealy, C. D. Meekison and G. R. Booker, "Ion beam synthesis of a and b FeSi2 layers", Nuclear Instruments and Methods in Physics Research, Vol B74, 60-64, 1993.

The use of multi-species implantation for carrier profile control in GaAs MESFETs fabricated using silicon ion implantation

R. M. Gwilliam, R. J. Wilson, T. D. Hunt and B. J. Sealy, "The use of multi-species implantation for carrier profile control in GaAs MESFETs fabricated using silicon ion implantation", Nuclear Instruments and Methods in Physics Research, Vol B74, 94-97, 1993.

A comparison of shallow and deep iron silicide layers fabricated by ion beam synthesis

T. D. Hunt, K. J. Reeson, R. M. Gwilliam, K. P. Homewood, R. J. Wilson, R. S. Spraggs, B. J. Sealy, C. D. Meekison, G. R. Booker and P. Oberschachtsiek, "A comparison of shallow and deep iron silicide layers fabricated by ion beam synthesis", Nuclear Instruments and Methods in Physics Research, Vol B80/81, 781-785, 1993.

Segregation of dopants in ion beam synthesised CoSi2 layers

K. J. Reeson, T. D. Hunt, R. M. Gwilliam, B. J. Sealy, R. S. Spraggs, C. D. Meekison and G. R. Booker, "Segregation of dopants in ion beam synthesised CoSi2 layers", Nuclear Instruments and Methods in Physics Research, Vol B80/81, 851-856, 1993.

Investigation of the luminescence properties of Si/bFeSi2/Si heterojunction structures fabricated by ion beam synthesis

T. D. Hunt, K. J. Reeson, R. M. Gwilliam, K. P. Homewood, R. J. Wilson and B. J. Sealy, "Investigation of the luminescence properties of Si/bFeSi2/Si heterojunction structures fabricated by ion beam synthesis", Journal of Luminescence, Vol 57, 25-27, 1993.

Determination of the optical and materials properties of bFeSi2 layers fabricated using ion beam synthesis

T. D. Hunt, K. J. Reeson, K. P. Homewood, R. J. Wilson, R. M. Gwilliam, R. S. Spraggs, B. J. Sealy, C. D. Meekison, G. R. Booker and P. Oberschachtsiek, "Determination of the optical and materials properties of bFeSi2 layers fabricated using ion beam synthesis", Advanced Metallisation and Processing for Semiconductor Devices and Circuits, Vol II, (Proceedings of the 1992 Materials Research Society...more

Electrical characterisation of phosphorus doped ion beam synthesised CoSi2/Si Schottky barrier diodes

R. S. Spraggs, G. Pananakakis, D. Bauza, K. J. Reeson, R. M. Gwilliam, T. D. Hunt and B. J. Sealy, "Electrical characterisation of phosphorus doped ion beam synthesised CoSi2/Si Schottky barrier diodes", Advanced Metallisation and Processing for Semiconductor Devices and Circuits, Vol II, (Proceedings of the

	1992 Materials Research Society Spring Meeting), Katz A, Murarka SP, Nissim YI, Harper JME...more The use of Novel Buffer Layers in AlInAs/InGaAs/InP HEMTs T. D. Hunt, J. Thompson, R. A. Davies and R. H. Wallis, "The use of Novel Buffer Layers in AlInAs/InGaAs/InP HEMTs", Presented at the 17th International Symposium on Gallium Arsenide Related Compounds, Jersey, U.K. 1990 (conference series, IOP publishing). Gate Technologies for AlInAs/InGaAs HEMTs T. D. Hunt, J. Urquhart, J. Thompson, R. A. Davies and R. H. Wallis, "Gate Technologies for AlInAs/InGaAs HEMTs", ESSDERC 90 conference proceedings, IOP publishing, 1990. A Review of Refractory Metal Gates for Self Aligned GaAs MESFETs", presented at the IOP conference in London on "Contacts to Semiconductors T. D. Hunt and K. Vanner, "A Review of Refractory Metal Gates for Self Aligned GaAs MESFETs", presented at the IOP conference in London on "Contacts to Semiconductors", 6th March, 1989. Self-Aligned stable Gate FETs using TiSi2 D. Wood, T. D. Hunt and J. Mun, ", presented at the IEE meeting in London, Proc. IEE Colloq, "ICs above 1 GHz - Fabrication and Circuit Design" 12th March 1986.	

	Capabilities / Capacity	
	Qualifications	Experience (e.g. Work)
Sue Joyce	certificate in adult and tertiary education, *Wintec* Graduate Diploma in IT for Education, *Wintec* Diploma in Management, *Open Polytechnic* Certificate Network Engineering 4, *Novell* Certificate in Business Computing, *Otago Polytechnic* Cisco 1 & 2, *Cisco*	Instructional design – (5 years) IT Industry (20 years) – Network Administration, project management, system analysis and design, help desk supervision and training, database administration, server administration management (3 years) – managed a team and budgets teaching (part time 7 years) – tertiary teaching

	Bachelor of Information Technology, *Wintec (to be completed end 2015)*	
	Research Activities	
	Capabilities / Capacity	
	Qualifications	Experience (e.g. Work)
Alison Marshall	Bachelor of Commerce and Administration in Electronic Commerce and Information Systems *Victoria University, Wellington*. certificate in adult teaching, *Wintec* certificate in adult and tertiary education, *Wintec* NcalV, *Wintec, Hamilton*	17 years in IT industry (Majority Web development management) Application Manager, Web *Ministry of Social Development* Project Manager, *Fonterra* Application Manager, Web *Fonterra* Team Leader, Web Development, *Telecom* Project Manager, *IRD* Project Team Lead irfile *IRD* Senior Business Analyst *IRD* Business Analyst *IRD*
	Research Activities	
	Capabilities / Capacity	
	Qualifications	Experience (e.g. Work)
	Currently Studying towards a MASTERS in computing and Mathematical Science, *University of Waikato* (to be completed by 2019)	Senior academic staff member, *Wintec 2012 - current* academic staff member, *Wintec, 2001 - 2011*

Mark Nikora	Bachelor of information Technology, *Wintec* Advanced Certificate in business computing with distinction, *Wintec* certificate in business computing, *Wintec* certificate in adult and tertiary education, *Wintec* certificate in adult teaching, *Wintec* CISCO CERTIFIED INSTRUCTOR: IT ESSENTIALS, *CISCO* National Certificate in Adult Literacy Education, *ATC New Zealand* Electrical trades certificate, *Electrical Trades Board*	decision support applications developer, *focus it – 2000* Registered electrician - Industrial, Commercial, domestic, *Previous*

Research Activities

Outputs	Alignment to Programme
Hunt, Tim D. and Rajendran, Dileep and Nikora, Mark and Bennett, Susan (2013) *Utilising home electricity usage as a low intrusive wellbeing monitor*. In: Proceedings: Global Healthcare (GHC). GSTF. Item availability restricted. Rajendran, Dileep and Hunt, Tim D. and Nikora, Mark and Bennett, Susan (2013) *Are you OK? An Android application for assisted living.* In: CITRENZ2013: 26th Annual Conference of Computing & Information Technology Research & Education New Zealand: Engaging With Communities, 6-9 October, 2013, Hamilton, New Zealand. Nikora, Mark and Hunt, Tim D. and Rajendran, Dileep and Bennett, Susan (2013) *Assisted living presentation medicine reminder Maori Research Symposium programme*. In: Wintec Maori Research Symposium , Friday 8 November 2013, Te Kōpū Mānia o Kirikiriroa marae, Wintec, Hamilton, New Zealand. (Submitted) Item availability restricted.	Assisted Living Research Project (Centre for business and information technology)

	Hunt, Tim D. and Rajendran, Dileep and Nikora, Mark and Bennett, Susan and Fendall, Andy (2014) *A minimally intrusive monitoring system that utilizes electricity consumption as a proxy for wellbeing*. Journal of Applied Computing and Information Technology, 18 (2). ISSN 2230-4398 Hunt, Tim D. and Rajendran, Dileep and Nikora, Mark and Bennett, Susan and Fendall, Andy (2014) *An Assisted Living application utilizing electricity consumption*. Monitor, analyse and decision. Item not available online.	
Sunitha Prabhu	**Capabilities / Capacity**	
	Qualifications	**Experience (e.g. Work)**
	Master of Computing & Mathematical Science, *Waikato University* Bachelor of Engineering (Electronics), *Marathwada University* CALT, *Wintec* Certificate in Literacy & Numeracy, *Manukau Institute of Technology*	Academic Staff Member, *Wintec*, 1999-current Systems Analyst, *Peace Computers* (14 months)
	Research Activities	
Dileep Rajendran	**Capabilities / Capacity**	
	Qualifications	**Experience (e.g. Work)**
	Master of Engineering Science (Photonics/Telecommunications), *University of New South Wales, 2002* Bachelor of Technology (Hons) , *University of Auckland, 2001* Certificate of adult teaching, *Wintec,2002*	Senior Academic Staff Member, *Wintec, 2007 -present* Academic Staff Member, *Wintec, 2002-2007*

Certificate of adult teaching and learning, *Wintec, 2005* CISCO CCNA Instructor (Modules 1-4), *Wintec 2005* National Certificate of Adult Literacy Education, *Wintec, 2010*	

Research Activities

Capabilities (e.g. supervisor) ☞	Supervisor of masters and undergraduate projects Subject expert (computer networking) - for undergraduate, postgraduate, local and international program development

Outputs	Alignment to Programme
Hunt, Tim D. and Rajendran, Dileep and Nikora, Mark and Bennett, Susan and Fendall, Andy (2014) A minimally intrusive monitoring system that utilizes electricity consumption as a proxy for wellbeing. Journal of Applied Computing and Information Technology, 18 (2). ISSN 2230-4398	INDUSTRY RELEVANCE, PROGRAMMING,
Hunt, Tim D. and Rajendran, Dileep and Nikora, Mark and Bennett, Susan (2013) Utilising home electricity usage as a low intrusive wellbeing monitor. In: Proceedings: Global Healthcare (GHC). GSTF.	INDUSTRY RELEVANCE, PROGRAMMING,
Rajendran, Dileep and Hunt, Tim D. and Nikora, Mark and Bennett, Susan (2013) Are you OK? An Android application for assisted living. In: CITRENZ2013: 26th Annual Conference of Computing & Information Technology Research & Education New Zealand: Engaging With Communities, 6-9 October, 2013, Hamilton, New Zealand.	INDUSTRY RELEVANCE, PROGRAMMING, MOBILE APPLICATION DEVELEOPMENT
Software: Are you OK? Android application	INDUSTRY RELEVANCE, PROGRAMMING, MOBILE APPLICATION DEVELEOPMENT
Does Embedding an ICT Certification Help Align Tertiary Programs with Industry? A Study of CCNA Workplace Perceptions. Accepted for The New Zealand Journal of Applied Computing and Information Technology	INDUSTRY RELEVANCE, NETWORKING
Relevance of CCNA for Industry Students at Wintec. Proceedings of the First Annual Conference of Computing and Information Technology Research and Education New Zealand (CITRENZ) incorporating the 23rd annual conference of the National Advisory Committee on Computing Qualifications (NACCQ) pp. 227-234 .	INDUSTRY RELEVANCE, NETWOKING
Longitudinal study of Linux Networking in NZ industry and ITP education. The New Zealand Journal of Applied Computing and Information Technology, 12 (1), 73-80.	

	Linux networking in NZ industry and ITP education. Proceedings of the 20th Annual Conference of the National Advisory Committee on Computing Qualifications (NACCQ). pp. 223-227. Supernet: Introducing computers to the elderly. Proceedings of the 18th Annual Conference of the National Advisory Committee on Computing Qualifications (NACCQ). pp. 287-290.	INDUSTRY RELEVANCE, NETWORKING INDUSTRY RELEVANCE, NETWORKING INDUSTRY RELEVANCE, COMMUNITY INVOLVEMENT
Blaine Rakena	**Capabilities / Capacity**	
	Qualifications	**Experience (e.g. Work)**
	PhD candidate + *Curtin University* MASTERS IN EDUCATION (hons) + *Waikato University* BACHELOR OF EDUCATION + *Waikato University* DIPLOMA OF TEACHING + *Waikato University* Graduate Dip in IT Education + *WINTEC* Certificate in Adult Teaching + *WINTEC* Certificate in Adult Learning and Teaching + *WINTEC* National Certificate Adult Literacy and Numeracy Education (NCALE) + *Manukau Institute of Technology*	2014 – current - BIT Degree & Graduate Diploma Programme coordinator and tutor. - *WINTEC* 2000 – 2014 – Tutor - *Wintec* *1997-2000 – Ministry of Education - Wellington*
	Research Activities	
	Outputs	**Alignment to Programme**
	1998 - Bridging the Digital Divide: A scoping project for the development of a community technology center. Unpublished research project. 2000 – Bridging the Digital Divide: A scoping project for the development of a community technology centre. Unpublished research project. 2014 – As Proud As We Are: A case study of educational achievement and learning for mature Maori computing students. Unpublished thesis for PhD.	This research provides success indicators for mature MĀori students in the programme.

Matekohi Tamati	Capabilities / Capacity	
	Qualifications	Experience (e.g. Work)
	Bachelor of Arts *Waikato University* Graduate Diploma in Secondary teaching *Waikato University* Certificate in Adult and Tertiary Education *Waikato Institute of Technology* National Certificate in Adult Literacy and Numeracy Education *Manukau Institute of Technology*	Waikato Institute of Technology *Administrator/Tutor* Hamilton's Fraser High School *Teacher* Wanganui High School *Teacher* Nurses Organisation of New Zealand *Administrator* New Zealand Companies Office *Administrator*
	Research Activities	
Hami Te Momo	Capabilities / Capacity	
	Qualifications	Experience (e.g. Work)
	(Current) Post Graduate Diploma in Computing, Mathematics and Science + *University Of Waikato*. Bachelor of Computing, Mathematics and Science (Maj. Soft Eng) + *University Of Waikato*. Certificate in Tertiary Education + *Waikato Institute of Technology*.	(Current-2013) Senior Academic Staff Member + *Waikato Institute of Technology* (Current-2014) Oracle Cloud 12C/11G Database Architect/Administrator + *Waikato Institute of Technology – CBITE/IT* (Current-2005) Oracle 10G/11G Database Architect/Administrator + *Waikato Institute of Technology – CBITE/IT* (2013-1999) Academic Staff Member + *Waikato Institute of Technology* Work stuff (1999-1996) Part-Time Academic Staff Member + *Waikato Institute of Technology*

	(1999-1998) Microsoft Software Applications Professional Trainer + *Waikato Institute of Technology* (1997-1996) Part-Time IT Tutor for Adult Students + *Private Training Education - Fraser High School* (1997-1996) Contract Software Engineer/Programmer + *Datacom (Auckland)* (1995-1993) Laboratory Technician + *Anchor (Waitoa)* (1995 - 1994) Database Backup/Recovery Administrator + *Anchor (Waitoa)* (1994) Document Quality Assurance Editor + *Anchor (Waitoa)* (1995-1994) Maori Students Support Association Tutor for Computer Science + *Waikato Institute of Technology* (1995-1993) Computer Science Tutor/Demonstrator (Incl. Maori Stream) + *Waikato Institute of Technology* (1995-1993) Computer Science Tutor/Demonstrator + *Waikato Institute of Technology*
Research Activities	
Capabilities (e.g. supervisor) ☞	(Current – 2004) IT 3rd Year Projects Supervisor (Current) Mobile Prototype for Terminal Brain Injury Assistance + University of Waikato (2005) Prototype design/Implementation for Collaborative Software Research + *University of Waikato* (2005) Smart House Project using WiFi, Object Recognition and Behavioural Recognition + *University of Waikato* (2005) Formal Methods Research, Dynamic Interfaces for PDA Systems + *University of Waikato* (2005) User Centred Design Study on the Tourism Information System Project: A Proposed Mobile Interface + *Information Systems Group. University of Waikato* (2005) Distributed Information System Design/Implementation for Large Data (seismograph sensor) , work was published at the School of Computer Science + *University of Waikato*

		(2005) Cluster-Based Filter Algorithms Analysis/implementation for Attribute-Value Pairs and Context-Valued Pairs + *University of Waikato* (2005) Semantic Web Research/Analysis/Implementation + *University of Waikato* (1998) Data Analyst and Research Assistant: Maori Retention Survey Project + *University of Waikato, Department of Maori Development* (1995) Collapsible Menu Systems using Cached System + *University of Waikato* (1995) Advanced Data Modelling + *University of Waikato* (1994) Text searching algorithms for Context based Information: Lycros, Info-Seek, Web-Crawler + *University of Waikato* (1994) Investigation into Graphical Interaction: Snap Grid + *University of Waikato* (1994) Paper on Algebraic Notation and Implementation for Object Oriented Database Systems: Snap Grid + *University of Waikato*
	Capabilities / Capacity	
	Qualifications	**Experience (e.g. Work)**
Michael Warren	Bachelor of Teaching(Hons) *Waikato University,* Certificate in Adult Teaching (CATE exempted) *Wintec,* Diploma IT Systems Administration *AMES Auckland,* Cisco Certified CCNA and A+ Instructor Cisco Certified Network Associate (CCNA), *AMES Auckland,* Microsoft Certified Trainer Microsoft Certified Solutions Associate (MCSA), *AMES Auckland,* A+ and Network+ *AMES Auckland* Note: MCT, MCSA, CCNA and A+ are internationally recognised industry qualifications that prove my proficiency within these	Academic Staff Member *CBITE Wintec*, 2012 - 2015 Wintec IT Service Coordinator *ITS Wintec, 2010 - 2012* Customer Service Technician *Woosh Wireless, 2009 - 2010* Support Technician *Vector Limited, 2008 - 2009* School Teacher *Kaitaia College, 2007* School Teacher *Reporoa College, 2006* Relief Teacher, *Hamilton, 2005*

	fields. The modules I teach at Wintec include A+, CCNA and Microsoft related modules.	
	Research Activities	
	Capabilities (e.g. supervisor) ☞	Strong industry related skills in networking, systems administration, service management and customer relations. Teacher qualified and experienced.
John Wells	Capabilities / Capacity	
	Qualifications	Experience (e.g. Work)
	Master of Computing & Mathematical Science, 1995, *Waikato University* certificate of adult teaching, *Wintec* CALT *Wintec* NCALE(V) *Manukau Institute of Technology* MIITP	Senior Academic Staff Member, 2007-present, *Wintec* Academic Staff Member, 2001-2008, *Wintec* Company director, 2007-2008,*Cascade Computer Solutions Ltd* Freelance Computer Consultant, 2001-2007 Help Desk Manager, 1997-2001, *University of Waikato* Senior Computer Consultant, 1993-1997, *University of Waikato* Technician, 1981-1993, *University of Waikato*
	Research Activities	
Guss Wilkinson	Capabilities / Capacity	
	Qualifications	Experience (e.g. Work)
	PhD, *University of Waikato* chartered IT Professional, *IITP* Registered PRINCE2 Project Management Practitioner, *APMG* Master of Management Studies, *University of Waikato*	Team Manager, *Centre for Business IT and Enterprise Wintec* Business & Systems Analyst, *ESITO* IS Manager, *Waikato DHB/University of Auckland* Contractor (Business Consultant), *Genesis Energy*

	PgDip Management Systems, *University of Waikato* certificate of adult teaching, *Wintec* Bachelor of Information Technology, *The Waikato Polytechnic* Optometry Registration, *SvenskaOptikerförbundet* Fellow of the Association of British Dispensing opticians	Contracted Senior Lecturer, *Wintec* Business Analyst, *Mighty River Power* Business/Pricing Analyst, *WEL Energy/Natural Gas* Optometrist, *Synpunkten AB (Sweden)* Optometrist/Regional Manager, *Se och Synas AB (Sweden)* Consultant optometrist, *Optiker RasterDahl AB/Synsam i Globen AB/västertorp OPtik AB (Sweden)* Clinical manager, *Dollond & Aitchison PLC (UK)* Optical Apprentice, *Benckerts Optik AB (Sweden)*
	Research Activities	
	Capabilities / Capacity	
	Qualifications	**Experience (e.g. Work)**
Alex Yu	Certificate in Adult Teaching, 2013, *Wintec* Certificate In Adult And Tertiary Education, 2013, *Wintec* Master of science with first class honours, 2006, *university of waikato* Post Graduate Diploma in Computer Sciences, 2004, *university of waikato* Graduate Diploma in Computer Sciences, 2003, *university of waikato*	Senior academic staff member, cbite, *wintec* Lead Research Programmer, FLAX Project, 2007-2013, *university of waikato* Research Programmer, Greenstone Digital Library Group, 2006, *university of waikato*
	Research Activities	
	Capabilities (e.g. supervisor)	natural language processing, computer assisted language learning, data mining

Outputs	Alignment to Programme
Proceedings of vocab @vic, 2013, *victoria university of wellington* FLAX Language Learning Games, 2014 CITRENZ, Poster, *Auckland, New Zealand* Supporting Technical Vocabulary Learning, 2013 *Vocab International Conference, Wellington* FLAX Language Learning in Moodle, MoodleMoot, 2013, *University of Waikato*	flexible learning

2.5 PROGRAMME REGULATIONS

The Programme Regulations can be viewed here

2.6 MODULE SUMMARY

Refer to ‘Module Descriptors’ volume

2.7 MODULE DESCRIPTORS

Refer to ‘Module Descriptors’ volume