School of Computing

Bachelor of Computing Systems

Regulations Document

HB4057

Effective from Semester 1, 2021

Version 4

TABLE OF CONTENTS

1   PHILOSOPHY

The Bachelor of Computing Systems is underpinned by a common mission and principles that apply to all programmes in the School of Computing and are grounded in the EIT Model for Effective Learning and EIT's strategic goals. The purpose of these principles is to support coherence within and between programmes in the School, as well as coherence of each programme in relation to EIT's values and goals.

The **mission** of the School of Computing is to help students prepare for success in life and work.

Guiding **principles** are that all programmes in the School of Computing:

- Enable success for all their students, through:
    - Being inclusive of all students in their teaching, learning and support practices;
    - Providing flexibility of choice in enrolment dates, learning mode, and course selection;
    - Student-centred learning methods in which students are expected to take responsibility for their own learning, and lecturers are facilitators and guides;
    - Setting high expectations and standards that are comparable across New Zealand;
    - Study programmes that are challenging yet achievable; and,
    - Providing smooth transition pathways between programmes.
- Embrace connectedness, through:
    - Seeking collaboration and integrated learning opportunities with local and regional organisations where possible and relevant;
    - Practising collaborative and social-constructivist teaching and learning approaches.
- Nurture applied learning, through providing learning opportunities that:
    - Are relevant to students and their aspirations;
    - Are transferable to other contexts;
    - Are multidisciplinary;
    - Require active engagement from the students.
- Demonstrate smart thinking, through
    - Being manageable for those who develop, teach and support the programmes and courses;
    - Being financially viable;
- Look after he tangata, staff and students alike, through embracing the EIT values of:
    - Acting with integrity;
    - Being inspirational;
    - Showing commitment; and
    - Nurturing whanaungatanga.

2 AIM AND GRADUATE PROFILE

2.1 AIM

The Bachelor of Computing Systems aims to develop well-rounded information technology professionals, who are ready to pursue and further develop in their chosen career.

2.2 GRADUATE PROFILE

Graduates of the Bachelor of Computing Systems are able to:

1. Apply a broad range of Information Technology and Systems (IT/IS) knowledge and skills as well as specialised knowledge and skills in one or more fields of professional IT/IS practice-
    a. systems development,
    b. support and infrastructure,
    c. information systems or
    d. intelligent systems;
2. Advise on, plan for and implement change processes within dynamic and complex organisational environments;
3. Critically evaluate global developments and accepted methodologies in IT/IS for incorporation in their professional practice;
4. Independently pursue new opportunities in a fast changing global environment;
5. Communicate and collaborate to build and maintain effective relationships with a diverse range of individuals, clients, teams and organisations;
6. Practise IT/IS in a legal, sustainable, ethical and culturally appropriate manner;
7. Recognise the need for information and locate, evaluate and utilise information and data effectively through professional information management practices.
8. Demonstrate problem solving, critical thinking, reflective practice, self-management, project management, and systems thinking.

2.2.1 EDUCATION PATHWAY

Graduates of the BCS will be able to undertake postgraduate programmes in the field of information technology as well as in related fields. Within EIT, anticipated pathways for BCS graduates are the Postgraduate in IT, and Masters in Information Technology.

2.2.2 EMPLOYMENT PATHWAY

Graduates of the BCS are employed across the information technology and business sectors. Depending on the student's specialisation possible roles include, but are far from limited to, Software Developer, Website Developer, Systems Analyst, Data Analyst, Help Desk Operator, Internet of Things Designer, Automation Engineer, Software Engineer, Technical Support Analyst, IT Technician, IT Project Manager, Digital Marketer/Search Engine Optimiser, IT Entrepreneur and Software Developer.

2.3 EIT GRADUATE ATTRIBUTES

EIT wishes to ensure that all its graduates are well-prepared for work and life when leaving EIT. It requires all programmes to embed the EIT graduate attributes to a level that is relevant to the particular programme. For the BCS, the EIT graduate attributes have been embedded in the Graduate Profile presented in Section 2.2.

The table in Appendix 3 shows how the EIT graduate attributes have been integrated into the BCS Graduate Profile presented in Section 2.2.

3   PROGRAMME STRUCTURE

3.1 PROGRAMME COHERENCE

Programme development follows the principles of constructive alignment. Teaching and learning approaches, assessment and learning outcomes of courses are all aligned to enable achievement of the learning outcomes. Learning outcomes of courses have been designed to collectively make up the graduate profile of the qualification. Hence, the total of assessments in each programme measures whether the student has achieved the graduate profile.

The process draws on appropriate pedagogical and discipline expertise, as well as ensuring compliance with the EIT and NZQA quality assurance requirements.

The BCS comprises 360 credits. During their first year, students choose either the Systems Development, Support and Infrastructure, Information Systems or the Intelligent Systems stream. The former leads into the BCS with a major in Systems Development, the second enables students to complete the Support and Infrastructure major, the third option allows the student to complete the BCS with the Information Systems major, while the last option allows students to complete the BCS with the Intelligent Systems major. Irrespective of their specialisation in the first year, students also have an option to complete an unendorsed BCS qualification.

Coherence is provided through the alignment of course learning outcomes and graduate profile in the Graduate Profile and Course maps for the BCS (refer Appendix 2). Alignment of course learning outcomes, learning and teaching strategies and assessment tasks is described in each Course Descriptor in the Curriculum Document.

3.2 PROGRAMME STRUCTURE

The course tables for each option are found in the following sections. The programme structure described in these sections is the one recommended for students to follow. While most students will follow the Year 1 structure as planned, they have the flexibility to complete the Year 2 and Year 3 courses in any order provided prerequisites are met.

The tables in the following sections refer to four types of courses;

- Core compulsory: a course that is compulsory for all BCS students;
- Compulsory: a course that is compulsory for all students completing the particular major;
- Optional: a course that can be chosen from a limited selection of BCS courses; and,
- Elective: a course from the BCS or any other programme at the appropriate academic level and with the appropriate number of credits.

A list of electives available within the BCS, other than the courses already listed in Sections 3.2.1 to 3.2.5 is included in Section 3.2.6.

Teaching hours in the course tables may include online or face to face classroom hours, one-on-one and group coaching, and project supervision.

3.2.1 PROGRAMME STRUCTURE SYSTEMS DEVELOPMENT MAJOR

Course Code	Course Title	Level	Course Credits	Teaching Hours (appr.)	Independent Study (appr.)	Total Learning Hours	(Core) Compulsory/ Optional/Elective
Year One							
ITCS5.100	Computer System Architecture	5	15	56	94	150	Core compulsory
ITCT5.120	IT Concepts and Tools	5	15	56	94	150	Core compulsory
ITWD5.130	Website Development	5	15	56	94	150	Core compulsory
ITIS5.450	Information Systems	5	15	56	94	150	Compulsory
ITDT5.228	Introduction to Data Concepts	5	15	56	94	150	Compulsory
ITPM5.240	Agile Projects	5	15	56	94	150	Compulsory
ITUX5.210	UX and UI Fundamentals	5	15	56	94	150	Compulsory
ITPF5.110	Programming Fundamentals	5	15	56	94	150	Compulsory
	TOTAL Year 1		120				
Year Two							
ITPM6.318	Project Management	6	15	56	94	150	Core compulsory
ITSD6.348	Systems Analysis	6	15	56	94	150	Core compulsory
ITDS6.349	Systems Design	6	15	56	94	150	Core compulsory
ITDF6.100	Digital Forensic Fundamentals	6	15	56	94	150	Core compulsory
ITPR6.508 Advanced Object Oriented Programming		6	15	56	94	150	Compulsory
ITPR6.51 Enterprise Software Development		6	15	56	94	150	Compulsory
ITDB6.208 Database Management Systems		6	15	56	94	150	Compulsory
ITWD6.408 Advanced Internet and Web Page Development		6	15	56	94	150	Compulsory
	TOTAL Year 2		120				
Year Three							
ITCP7.001	Capstone part 1.	7	30	14	286	300	Core Compulsory
ITCP7.002	Capstone part 2.	7	30	14	286	300	Core Compulsory
ITPR7.508	Business Application Programming	7	15	14	94+42 (supervised)	150	Core Compulsory
ITWD7.358	Web Application Programming	7	15	56	94	150	Core Compulsory
Two electives to achieve a total of 120 credits in year 3		6, 7	30			300	Elective
	TOTAL Year 3		120				
	TOTAL for Programme		360			3600	

3.2.2 PROGRAMME STRUCTURE SUPPORT AND INFRASTRUCTURE MAJOR

Course Code	Course Title	Level	Course Credits	Teaching Hours (appr.)	Independent Study (appr.)	Total Learning Hours	(Core) Compulsory/ Optional/ Elective
Year One							
ITCS5.100	Computer System Architecture	5	15	56	94	150	Core compulsory
ITCT5.120	IT Concepts and Tools	5	15	56	94	150	Core compulsory
ITWD5.130	Website Development	5	15	56	94	150	Core compulsory
ITIS5.450	Information Systems	5	15	56	94	150	Compulsory
ITDT5.228	Introduction to Data Concepts	5	15	56	94	150	Compulsory
ITPM5.240	Agile Projects	5	15	56	94	150	Compulsory
ITUX5.210	UX and UI Fundamentals	5	15	56	94	150	Compulsory
ITPF5.110	Programming Fundamentals	5	15	56	94	150	Compulsory
	TOTAL Year 1		**120**				
Year Two							
ITPM6.318	Project Management	6	15	56	94	150	Core compulsory
ITSD6.348	Systems Analysis	6	15	56	94	150	Core compulsory
ITDF6.100	Digital Forensic Fundamentals	6	15	56	94	150	Core compulsory
ITDC6.218	Data Communications and Networking	6	15	56	94	150	Core compulsory
ITHW6.238	Electronics and Internet of Things Technology	6	15	56	94	150	Compulsory
ITNA6.258	Advanced Networking and the Cloud	6	15	56	94	150	Compulsory
ITOS6.608	Operating Systems	6	15	56	94	150	Core Compulsory
ITAE6.100	Automation and Embedded Systems	6	15	56	94	150	Compulsory
	TOTAL Year 2		**120**				
Year Three							
ITCP7.001	Capstone part 1.	7	30	14	286	300	Core Compulsory
ITCP7.002	Capstone part 2.	7	30	14	286	300	Core Compulsory
ITSY7.668	Cyber Security	7	15	56	94	150	Core Compulsory
ITHW7.238	Enterprise Support & Infrastructure	7	15	56	94	150	Core Compulsory
Two electives to achieve a total of 120 credits in year 3		6, 7	30			300	Elective
	TOTAL Year 3		**120**				
	TOTAL for Programme		**360**			3600	

3.2.3 PROGRAMME STRUCTURE INFORMATION SYSTEMS MAJOR

Course Code	Course Title	Level	Course Credits	Teaching Hours (appr.)	Independent Study (appr.)	Total Learning Hours	(Core) Compulsory/ Optional/ Elective
Year One							
ITCS5.100	Computer System Architecture	5	15	56	94	150	Core compulsory
ITCT5.120	IT Concepts and Tools	5	15	56	94	150	Core compulsory
ITWD5.130	Website Development	5	15	56	94	150	Core compulsory
ITIS5.450	Information Systems	5	15	56	94	150	Compulsory
ITDT5.228	Introduction to Data Concepts	5	15	56	94	150	Compulsory
ITPM5.240	Agile Projects	5	15	56	94	150	Compulsory
ITUX5.210	UX and UI Fundamentals	5	15	56	94	150	Compulsory
ITPF5.110	Programming Fundamentals	5	15	56	94	150	Compulsory
	TOTAL Year 1		**120**				
Year Two							
ITPM6.318	Project Management	6	15	56	94	150	Core compulsory
ITSD6.348	Systems Analysis	6	15	56	94	150	Core compulsory
ITDF6.100	Digital Forensic Fundamentals	6	15	56	94	150	Core compulsory
ITDB6.208	Database Management Systems	6	15	56	94	150	Compulsory
ITKM6.398	Knowledge Management	6	15	56	94	150	Core Compulsory
ITWD6.408	Advanced Internet & Web Page Development	6	15	56	94	150	Compulsory
Two of the following four courses:							
ITPR6.358	User Experience & User Interfaces	6	15	56	94	150	Compulsory
ITMA6.240	Maths in IT	6	15	56	94	150	Compulsory
	TOTAL Year 2		**120**				
Year Three							
ITCP7.001	Capstone part 1.	7	30	14	286	300	Core Compulsory
ITCP7.002	Capstone part 2.	7	30	14	286	300	Core Compulsory
ITEC7.398	E-Business Strategies	7	15	56	94	150	Core Compulsory
ITDA7.240	Data Analytics	7	15	56	94	150	Core Compulsory
Two or three electives to achieve a total of 120 credits in year 3		6,7	30			300-450	Elective
	TOTAL Year 3		**120**				
	TOTAL for Programme		**360**			**3600**	

Course Code	Course Title	Level	Course Credits	Teaching Hours (appr.)	Independent Study (appr.)	Total Learning Hours	(Core) Compulsory/ Optional/ Elective
Year One							
ITCS5.100	Computer System Architecture	5	15	56	94	150	Core compulsory
ITWD5.130	Website Development	5	15	56	94	150	Core compulsory
ITCT5.120	IT Concepts and Tools	5	15	56	94	150	Core compulsory
ITIS5.450	Information Systems	5	15	56	94	150	Compulsory
ITDT5.228	Introduction to Data Concepts	5	15	56	94	150	Compulsory
ITPM5.240	Agile Projects	5	15	56	94	150	Compulsory
ITUX5.210	UX and UI Fundamentals	5	15	56	94	150	Compulsory
ITPF5.110	Programming Fundamentals	5	15	56	94	150	Compulsory
	TOTAL Year 1		120				
Year Two							
ITPM6.318	Project Management	6	15	56	94	150	Core compulsory
ITSD6.348	Systems Analysis	6	15	56	94	150	Core compulsory
ITDF6.100	Digital Forensic Fundamentals	6	15	56	94	150	Core compulsory
ITWD6.408	Advanced Internet & Web Page Development	6	15	56	94	150	Compulsory
ITMA6.240	Maths in IT	6	15	56	94	150	Core Compulsory
ITHW6.238	Electronics and Internet of Things Technology	6	15	56	94	150	Compulsory
ITNA6.258	Advanced Networking and the Cloud	6	15	56	94	150	Compulsory
ITAE6.100	Automation and Embedded Systems	6	15	56	94	150	Core Compulsory
	TOTAL Year 2		120				
Year Three							
ITCP7.001	Capstone part 1.	7	30	14	286	300	Core Compulsory
ITCP7.002	Capstone part 2.	7	30	14	286	300	Core Compulsory
ITAI7.110	Machine and Artificial Intelligence	7	15	56	94	150	Core Compulsory
IFM7.120	Mechatronics in IT	7	15	56	94	150	Core Compulsory
Two electives to achieve a total of 120 credits in year 3		6, 7	30			300	Elective
	TOTAL Year 3		120				
	TOTAL for Programme		360			3600	

3.2.5 PROGRAMME STRUCTURE UNENDORSED BCS

Course Code	Course Title	Level	Course Credits	Teaching Hours (appr.)	Independent Study (appr.)	Total Learning Hours	(Core) Compulsory/ Optional/ Elective
Year One							
ITCS5.100	Computer System Architecture	5	15	56	94	150	Core compulsory
ITWD5.130	Website Development	5	15	56	94	150	Core compulsory
ITCT5.120	IT Concepts and Tools	5	15	56	94	150	Core compulsory
ITIS5.450	Information Systems	5	15	56	94	150	Compulsory
ITDT5.228	Introduction to Data Concepts	5	15	56	94	150	Compulsory
ITPM5.240	Agile Projects	5	15	56	94	150	Compulsory
ITUX5.210	UX and UI Fundamentals	5	15	56	94	150	Compulsory
ITPF5.110	Programming Fundamentals	5	15	56	94	150	Compulsory
	TOTAL Year 1		**120**				
Year Two							
ITPM6.318	Project Management	6	15	56	94	150	Core compulsory
ITSD6.348	Systems Analysis	6	15	56	94	150	Core compulsory
Six additional Level 6 courses from the lists in Sections 3.2.1-3.2.4 and 3.2.6		6	90	336	424	900	Elective
	TOTAL Year 2		**120**				
Year Three							
ITCP7.001	Capstone part 1.	7	30	14	286	300	Core Compulsory
ITCP7.002	Capstone part 2.	7	30	14	286	300	Core Compulsory
Two additional Level 7 courses from the lists in Sections 3.2.1-3.2.5 and 3.2.6 to achieve a minimum of 90 credits at level 7		7	30	84	216	300	Elective
Two electives to achieve a total of 120 credits in year 3		6, 7	30	84	216	300	Elective
	TOTAL Year 3		**120**				
	TOTAL for Programme		**360**			**3600**	

3.2.6 ELECTIVE COURSES

All courses at level 6 and 7 in the tables in Sections 3.2.1 to 3.2.5 are available to BCS students to choose as electives. In addition, they can choose as an elective any course from the following list or any course from other programmes at the appropriate academic level and with the appropriate number of credits.

Course Code	Course Title	Level	Course Credits	Teaching Hours (appr.)	Independent Study (appr.)	Total Learning Hours	Prerequisite(s)	(Core) Compulsory/ Optional/ Elective
ITEC6.398	E-Commerce	6	15	56	94	150	ITIS5.450 Information Systems	Elective
ITED6.338	Digital Design	6	15	56	94	150	Nil	Elective
ITGA7.100	GIS Analytics	7	15	56	94	150	ITDB6.208 Database Management Systems	Elective
ITDB7.208	Database Administration	7	15	56	94	150	ITDB6.208 Database Management Systems	Elective
ITST7.408	Special Topic	7	15	56	94	150	Nil	Elective
ITOS7.608	Advanced Cloud Infrastructure	7	15	56	94	150	ITOS6.608 Operating Systems ITDC6.218 Data Communications and Networking	Elective
ITIM7.458	Information Technology Management & Professionalism	7	15	56	94	150		Elective (Mutually exclusive to ITCP7.001)

3.2.7 MAJOR LEVEL 6 OPTIONS

All courses at level 6 in the tables in Sections 3.2.1 to 3.2.5 are available to BCS students to swap out up to 30 credits with exception of the Core compulsory courses. A Core compulsory for a particular major cannot be swapped out but it can be used as a swap option towards another major.

3.2.8 COURSE PREREQUISITES AND COREQUISITES

Exemption from a prerequisite is up to the discretion of the Programme Co-ordinator and course co-ordinator, based on the recognition of a student's prior learning.

The following table below contains all of the courses available in the BCS programme, regardless of major, with their corresponding prerequisite and corequisite courses.

Course Code	Course Title	Pre-requisites	Co-requisites
Year 1			
ITIS5.450	Information systems		
ITUX5.210	UX and UI fundamentals		
ITDT5.228	Introduction to data concepts		
ITIPM5.248	Agile Projects	As per the BCS entry requirements	
ITPF5.110	Programming Fundamentals		
ITWD5.130	Website development		
ITCS5.100	Computer System Architecture		
ITCT5.120	IT Concepts and Tools		

Course Code	Course Title	Pre-requisites	Co-requisites
Year 2			
ITPM6.318	Project Management		
ITSD6.348	Systems Analysis	ITIS5.540, ITDT5.228	
ITSD6.349	Systems Design	ITSD6.348	
ITPR6.508	Advanced Object-Oriented Programming	ITPF5.110	
ITHW6.238	Electronics and IoTT	ITCS5.100	
ITPR6.358	User Experience & User Interfaces	ITUX5.210	
ITPR6.518	Enterprise software development	ITPR6.508	

	ITDB6.208	Database Management Systems	ITDT5.228	
	ITOS6.608	Operating Systems	ITCS5.100	
	ITAE6.100	Automation and Embedded Systems	ITCS5.100	ITHW6.238
	ITMA6.240	Maths in IT	ITDT5.228	
	ITDF6.100	Digital Forensic Fundamentals	ITCS5.100	
	ITEC6.398	Knowledge management	ITIS5.450	
	ITWD6.408	Advanced Internet and Web Page Development	ITWD5.130	
	ITDC6.218	Data Communications and Networking	ITCS5.100	
	ITNA6.258	Advanced Networking and the Cloud	ITCS5.100	ITDC6.218

Year 3				
	ITIM7.458	IT Management & Professionalism	ITIS5.450, ITSD6.348, ITSD6.349	
	ITGA7.100	GIS Analytics	ITDB6.240	
	ITST7.408	Special Topic	Nil	
	ITSY7.668	Cybersecurity	ITDC6.218	
	ITDA7.240	Data analytics	ITPF5.110, ITDT5.228, ITMA6.240	
	ITPJ7.390	Project /Internship	ITIM7.458, ITPM6.318, ITSD6.348, ITSD6.349	
	ITPR7.508	Business Application Programming	ITPR6.508, ITWD6.408, ITDB6.208	
	ITWD7.358	Web Application Programming	ITWD6.408	
	ITEC7.398	E-Business Strategies	ITKM6.398	
	ITHW7.238	Enterprise support and infrastructure	ITDC6.218, ITNA6.258	
	ITAI7.110	Machine Learning and artificial intelligence	ITMA6.240, ITPF5.110	
	ITFM7.120	Mechatronics in IT	ITAE6.100, ITHW6.238	ITAI7.110
	ITOS7.608	Advanced Cloud Infrastructure	ITOS6.608, ITDC6.218	

3.3 DURATION OF THE PROGRAMME

The duration of the single-major or unendorsed BCS programme is three years full-time or equivalent part-time. Each 15-credit course is offered over a term, with full-time students studying two courses per term for four terms per year. Learning hours and teaching weeks are summarised in the table below.

	Teaching weeks	Weeks break	Gross weeks	Notional Learning Hrs: *Directed + self-directed incl. assessment*	Credit Value	EFTS Value
Year 1	36	6	42	1200	120	1.000
Year 2	36	6	42	1200	120	1.000
Year 3	36	6	42	1200	120	1.000
Totals	**108**	**18**	**126**	**3600**	**360**	**3.000**
TOTAL Hrs/Teaching Week				**33.3**		

4 QUALIFICATION DETAILS

4.1 AWARDING ORGANISATION

The Eastern Institute of Technology

4.2 QUALIFICATION LEVEL AND TOTAL CREDIT

The EIT Bachelor of Computing Systems is a 360 credit qualification at Level 7.

The qualification can be awarded with the following major endorsements: Systems Development, Support and Infrastructure, Information Systems, or Intelligent Systems. It can also be awarded without endorsement.

4.3 ENTRY REQUIREMENTS

Academic requirements	- University Entrance, or - The New Zealand Certificate in Information Technology Essentials (Level 4), or - An equivalent qualification
English language requirements	Applicants with a first language other than English must demonstrate an acceptable level of English language fluency prior to acceptance in the programme. Ways in which English language fluency may be demonstrated include: (i) completion of a programme of study in which English was the language of instruction (subject to the conditions in EIT's Database for English Language Proficiency (DELP)), (ii) approved scores on IELTS tests, namely an Academic score of 6 with no band lower than 5.5, or (iii) accepted international equivalents achieved in a single test within the two years preceding enrolment (see equivalency tables in the DELP).
Other requirements	There are no other requirements. Computer literacy is highly recommended in order to be able to cope with the practical and online components of the courses.
Special Entry	Students who do not meet the criteria above, but present evidence of ability to succeed (e.g. maturity, life experience, work experience, other study) may be provisionally admitted into the programme. Entry to subsequent study is conditional on satisfactory academic progress in the first year. Alternatively, students may be advised to enrol in either: 1) the stand-alone New Zealand Certificate in Information Technology (Level 5). Upon successful completion of this programme students would be eligible for enrolment in the second half of the first year of the BCS; or: 2) the New Zealand Certificate in IT Essentials (Level 4). Upon successful completion of this programme students would be eligible for enrolment in the BCS. The Dean may apply discretion to these regulations in exceptional circumstances.
Selection Process	Applicants who have provided evidence of having met all entry requirements will be selected in order of application.

4.3.1 INTERNATIONAL STUDENTS

International students are welcome to apply for entry onto the programme. Entry criteria are specified above.

4.3.2 MAXIMUM OR MINIMUM NUMBERS

The minimum and maximum numbers for the programme are set at the discretion of the Head of School, who will monitor the overall viability of the programme.

4.4 WITHDRAWAL PERIODS

If a student formally withdraws from a course within one week of commencement, then the course will not appear on the student's academic record. If a student formally withdraws from a course later than **one** week after commencement, but two weeks or more before the course is completed, a 'W' will be put on the student's academic record.

4.5 COMPLETION REQUIREMENTS

4.5.1 AWARDS OF THE BACHELOR OF COMPUTING SYSTEMS

The requirements for successful completion of the programme and for awarding the qualification are as follows:

1. The qualification EIT Bachelor of Computing Systems (Systems Development) will be awarded to students who have successfully completed the programme of study as listed in Section 3.2.1.
2. The qualification EIT Bachelor of Computing Systems (Support and Infrastructure) will be awarded to students who have successfully completed the programme of study as listed in Section 3.2.2.
3. The qualification EIT Bachelor of Computing Systems (Information Systems) will be awarded to students who have successfully completed the programme of study as listed in Section 3.2.3.
4. The qualification EIT Bachelor of Computing Systems (Intelligent Systems) will be awarded to students who have successfully completed the programme of study as listed in Section 3.2.4.
5. The qualification EIT Bachelor of Computing Systems will be awarded to students who have successfully completed the programme of study as listed in Section 3.2.5.

The following limitations to awarding the above qualifications apply:

- A student who has already been awarded an endorsed or unendorsed BCS qualification can be awarded another BCS qualification with a different endorsement provided they meet the requirements of this endorsement and have achieved at least 120 additional credits in the BCS. A student who has already been awarded an endorsed BCS qualification cannot apply to be awarded the unendorsed BCS qualification.
- A student cannot simultaneously be awarded the unendorsed and one of the endorsed BCS qualifications.

4.5.2 TOTAL COMPLETION TIME

It is expected that all students will complete the programme of study within 6 years of first enrolling in the BCS. Consideration in making this recommendation was given to balancing the needs of any part time students enrolling in the programme and the requisite currency of skills and knowledge. Any student who applies to re-enrol in the programme 6 years or more after first entering the programme will first need to gain approval from the Programme Coordinator. A recommendation by the Programme Coordinator will be made to the Head of School, who has the final decision to accept or decline the enrolment.

4.5.3 TRANSITION ARRANGEMENTS

Years 1,2 and 3 of the revised BCS will commence Term 1 (Semester 1), 2021.

The introduction of the revised BCS reflected in this document may affect current students in the BCS.

- All students will be advised of the changes and the implications for their studies before 2021.
- All current BCS courses will still be offered in 2020, provided there are current students who still need to complete these courses.
- For current students who still need to complete BCS courses beyond 2020, individual transition plans have been set out.
- A transition plan will be developed such that students can complete courses in the revised BCS which they can cross-credit to similar courses in the current BCS. Where similar courses do not exist, students will be recommended to select alternative courses from the changed BCS.

5 LEARNING AND ASSESSMENT

5.1 APPROACHES TO LEARNING AND TEACHING

Learning and teaching in each course in the BCS are aligned with the School of Computing philosophy (Refer Section 1) and characterised by the following.

Each course in this programme is task-based, where tasks may include case studies, projects, scenarios, and/or simulated work tasks. The tasks are authentic and realistic. Task-based learning as implemented in this programme enables situating the student's learning in a real or realistic information technology context. Tasks are learner-centred and require the student to take responsibility and to communicate and work with others in order to complete the tasks. Tasks may be group-based or individual, depending on the nature of the task.

The role of the teacher is to facilitate the learning process. Teachers support learning through one-on-one or group coaching (face to face or online), skills workshops, mini-lectures and/or tutorials on topics relevant for completing the tasks.

EIT Online is used as the learning management system that guides students in their tasks, points them to relevant information and resources, provides a platform for group work, enables students to ask questions to and gain feedback from others in their class, and enables submission of and provision of feedback on formative and summative assessment tasks. EIT Online is also used to help students develop their digital literacy competencies.

Details of the specific task-based learning approach and the aligned assessment methods used in each course are found in the course descriptors in the Curriculum Document.

5.2 BLENDED LEARNING ENVIRONMENT

The BCS is a web-enhanced programme. Each course will have its own EIT Online course site which is an essential instrument to guides students in their studies. For each course students are expected to access online materials and resources on this site, and online participation is making make a major contribution to study.

Online resources and activities may include, but not be limited to:

- Learning content (lecture notes, readings, exercises)
- Digital media
- Virtual group sessions
- Collaborative online tools (WIKIs, discussion fora, weblogs, cloud-based document sharing, e-portfolios)
- Online assessment tools and activities

EIT Online is also used to help students develop their digital literacy competencies.

Course site content is shared across the multiple sites (Taradale, Gisborne and Auckland) delivering the BCS, to ensure consistency in course content and support.

5.3 OFF-SITE WORK-INTEGRATED LEARNING

All BCS students are required to complete an IT Internship or Final Project. This work-integrated learning activity comprises two 30 credit courses (identified as Capstones part 1 and part 2), is offered over two consecutive terms. These courses are the capstone of the degree and are normally completed in the final half year (preferably the final semester of study) of enrolment. These courses enable students to:

- apply their knowledge and practise their skills independently in a real context;
- demonstrate that they have achieved the graduate profile;
- build networks in the information technology and business community;
- include meaningful work experience in their curriculum vitae.
- Transition to work opportunities within their internship sponsor organisation

Students undertaking the Information Technology capstones find their own placement organisation with the assistance of the Internship Coordinator towards an internship arrangement. Criteria for the internship to be accepted are communicated to students beforehand. These criteria help ensure that the learning outcomes of the Information Technology capstones as described in the course descriptors can be met.

Every student will receive supervision within the sponsor organisation and from a School of Computing lecturer.

5.4 APPROACHES TO ASSESSMENT

Assessment in the BCS follows the principles of constructive alignment where the course learning outcomes, the teaching methods and the assessment design are all aligned.

In line with the task-based learning and teaching approaches used in each course (refer Section 5.1), assessment is integrated with the learning process, to allow for authenticity of the assessment as well as opportunities for regular formative feedback before summative assessment takes place.

Summative assessment may include, but is not limited to, combinations of creation of a written report or a computing artefact, a verbal presentation, a journal, an electronic portfolio, task sheets, a test and/or a demonstration. Details of the assessment methods are described in the course descriptors.

All summative assessments are mapped to the course learning outcomes. In its turn, each course is mapped to the graduate profile outcomes as listed in Appendix 2, to ensure students successfully completing the programme of study meet the graduate profile.

All courses use achievement-based assessments (refer Section 5.6).

Students will be made aware of the required standards for individual assessments and given other assessment information (including relative weightings and marking criteria) in the information provided in the online site for the course. The requirements will also be explained during face to face classes, especially during the first year, when considerable effort will be made to ensure students understand what is expected of them.

5.5 AUTHENTICITY OF STUDENT WORK

Students are held accountable in terms of the policies and procedures relating to authenticity of student work through policies on academic misconduct (including plagiarism, cheating and misrepresenting identity for purposes of assessment), and assessment policies.

5.6 ASSESSMENT AND COURSE RESULTS

Assessment results are recorded as a percentage mark, and associated grade.

Requirements for successful course completion are as follows:

- A student must achieve a minimum of 40% or more for each course assessment;
- and must achieve a weighted average of 50% or more across all summative assessments in a course to receive a passing grade.

The final grade of a course is calculated as a weighted average of all percentage-marked assessments in the course and translated to a grade according to the EIT 11 point degree grading system as defined in the ARF.

Recording, checking and storage of results follows EIT's policies and procedures.

5.7 RECOGNITION OF PRIOR LEARNING

Recognition of Prior Learning, Cross Credit and Credit Transfer are available and follow EIT's Credit Recognition/Transfer and Recognition of Prior Learning Policy, Procedure and Guidelines on the Quality Management System, except where Sections 5.7.1, 5.7.2, or 5.7.3 apply.

A maximum of 240 credits in the BCS can be awarded through Credit Transfer, Cross Credit or Recognition of Prior Learning.

5.7.1 DIRECT ENTRY INTO YEAR 2 OF THE BCS

Students who have not completed the BCS (Level 5), but are able to provide evidence of having completed a range of courses that, as a whole, meet the criteria below may apply for:

- Award of 120 unspecified credits for year 1 of the BCS as a whole; and,
- Direct entry into year 2 of the BCS.

This will include BCS students from 2017 and 2018 who may be required to study a mixture of current and new BCS level 5 courses.

Criteria for direct entry into year 2 of the BCS

The applicant is able to, in operational contexts:

1. Apply knowledge of the principles and practices of information technology and systems, to support the operational efficiency and effectiveness of an organisation.
2. Analyse the impact of internal and external environments on IT/IS entities.
3. Apply problem-solving and decision-making for efficient and effective performance of an IT/IS entity.
4. Contribute to innovation and organisational change within an IT/IS entity.
5. Promote compliance with internal and external requirements.
6. Develop and maintain operational business relationships with stakeholders for efficient and effective performance of an IT/IS entity.
7. Gather and communicate information for efficient and effective performance of an IT/IS entity.
8. Manage own learning and performance.

Each student gaining direct entry into year 2 of the BCS must have their programme of study for the remainder of the BCS approved by the Programme Coordinator.

Students gaining direct entry into year 2 of the BCS in 2018 will still do so under the BCS regulations in force at the time of their entry. The new regulations described in this document will apply to students gaining direct entry from semester 1, 2019 and onwards.

Students who are given direct entry into year 2 from 2019 onwards, will be eligible for one of the endorsed qualifications EIT Bachelor of Computing Systems having successfully completed a programme of study as listed in Sections 3.2.1, 3.2.2, 3.2.3 and 3.2.4.

5.7.2   DIRECT ENTRY INTO YEAR 3 OF THE BCS

Students who are able to provide evidence of having completed courses that, as a whole, meet the criteria below may apply for:

- Award of 240 unspecified credits for years 1 and 2 of the BCS as a whole; and,
- Direct entry into year 3 of the BCS.

Students who are given direct entry into year 3 will only be eligible for the unendorsed qualification EIT Bachelor of Computing Systems having successfully completed the programme of study as listed in Section 3.2.5.

Criteria for direct entry into year 3 of the BCS

The applicant is able to:

1. apply a broad range of generic and some specialised IT/IS knowledge and skills to operational contexts and strategic contexts of limited complexity.
2. articulate the relationships between the various specialised fields of IT/IS practice.
3. Identify and respond to changes in the local, national and global IT/IS environment.
4. apply appropriate techniques to: solve problems, make decisions, conduct research, think critically, and use technology effectively in operational contexts and strategic contexts of limited complexity.
5. recognise and apply innovative approaches to IT/IS practice.
6. operate in a legal, sustainable, ethical and culturally appropriate manner.
7. communicate and collaborate effectively with a diverse range of individuals and teams.
8. gather and select information from a range of sources to inform their work.
9. take responsibility for their own learning.

Each student gaining direct entry into year 3 of the BCS must have their programme of study for the remainder of the BCS approved by the Programme Coordinator.

Students gaining direct entry into year 3 of the BCS in 2017 will still do so under the existing BCS regulations. The new regulations described in this document will apply to students gaining direct entry from 2019.

5.7.3   DIRECT ENTRY INTO YEAR 2 OR 3 THROUGH AN ARTICULATION AGREEMENT

EIT currently has and may continue to develop articulation agreements with overseas higher education institutions which provide students at these institutions direct entry into either year 2 or year 3 of the BCS. Direct entry is granted on the basis of a student having successfully completed a range of courses at the overseas institution as specified in the articulation agreement. The courses are selected such that they collectively meet the criteria in Section 5.7.1, for direct entry into year 2, or 5.7.2, for direct entry into year 3, whichever is applicable to the agreement.

The process of applying for direct entry is described in each articulation agreement.

Students whose direct entry into year 2 of the BCS is approved will be awarded 120 unspecified credits for year 1 of the BCS. Students whose direct entry into year 3 of the BCS is approved will be awarded 240 unspecified credits for years 1 and 2 of the BCS.

Each student gaining direct entry into year 2 or 3 of the BCS through an articulation agreement must have their programme of study for the remainder of the BCS approved by the Programme Coordinator.

Students gaining direct entry through an articulation agreement into year 2 or 3 of the BCS in 2018 will still do so under the existing BCS regulations. The new regulations described in this document will apply to students gaining direct entry from 2019.

5.7.4   UNSPECIFIED CREDITS

Up to 60 unspecified credits may be transferred to the unendorsed BCS degree from another field at level 5, 6 or 7 subject to approval from the programme coordinator.

5.8 PATHWAY FROM DIPLOMA IN INFORMATION AND COMMUNICATIONS TECHNOLOGY (DIPICT) (LEVEL 5) TO BCS

Students who have successfully completed the Diploma in Information and Communications Technology (Level 5) are eligible for Cross Credit or Credit Transfer for all Year 1 courses as listed in Section 3.2.1 to Section 3.2.5. This will enable them to complete an endorsed BCS or the unendorsed BCS in two years of full-time study.

Award of either Cross Credit or Credit Transfer depends on whether the student has studied at EIT (Credit Transfer) or at another institution (Cross Credit)

5.9 ASSESSMENT REGULATIONS

Details of assessment of each course are described in the Course descriptors. Assessment regulations follow the Regulatory Framework for Quality Assurance (ARF), as well as the relevant policy, procedure and guidelines as located in the QMS.

5.9.1   SPECIAL ASSESSMENT CIRCUMSTANCES

In cases where student performance in summative assessment is affected by a circumstance which the student could not have reasonably prevented (including sickness or injury to the student or bereavement) an application for Special Assessment Circumstances may be made. In all cases the initial notification must be prior to the assessment event. For tests this means the start time of the assessment. For other assessments this means the deadline for submission. Under exceptional circumstances this requirement may be waived, provided that notification was at the earliest possible opportunity.

Students will be advised of the application process for consideration of special assessment circumstances in the Programme Handbook.

Options for possible special arrangements may include, but are not limited to:

- Completing the assessment at an alternative time
- Reassessment

Extensions beyond the course end date must be approved by the Programme Cluster Committee.

5.9.2   REASSESSMENT

There is no reassessment in the programme, except when special assessment circumstances have been approved as stated in Section 5.9.1.

5.9.3   CARRY FORWARD OF COURSE WORK

A student who has not succeeded in achieving a passing grade for a course is allowed to carry over part(s) of the course that s/he has passed to a following enrolment in the course, within a two-year period, at no additional cost to the student.

A student wanting to carry over a part of a course to a following enrolment should apply for this in writing to the Programme Co-ordinator, using the prescribed form, stating the reason for the application, and specifying which parts of the course s/he wants to carry over. The Programme Co-ordinator will discuss with the student potential consequences of the carry over (e.g. course changes). If, following this discussion, the application still stands, the Programme Co-ordinator will make a decision to approve the application or otherwise, and will notify the student in writing, stating, if approved, which parts of the course will be carried over to a following enrolment. A copy of the documentation will be stored in the student's file.

Carry over of part of a course will only be approved once per course per student.

5.9.4   NON-PARTICIPATION IN ASSESSMENT

If a student has not participated in an assessment and has not gained approval to complete the assessment in an alternative way or at an alternative time, s/he will receive a blank mark for the assessment, which will be counted as 0% towards the course grade.

6   MODERATION

The purpose of moderation is to ensure that assessment of student learning in the programme is valid, fair, and consistently applied.

6.1.1   PRE-ASSESSMENT MODERATION

All summative assessments will be internally moderated prior to first use, and prior to first use following significant alteration, including alteration to align with different modes of delivery. The moderation process will ensure that in the assessment design, the following conditions are met:
- Conditions are clearly stated;
- Instructions/questions are appropriate and fair and will be clearly understood;
- Assessment/marking schedules indicate range of evidence and judgments required to ensure consistency;
- Assessments enable students to provide evidence corresponding to the stated learning outcomes and are appropriate to the course level.

6.1.2   POST-ASSESSMENT MODERATION

Course assessments are post-assessment moderated according to an annual plan. The purpose of this type of moderation is to check the consistency of the assessors' marking decisions and to recommend any changes to the assessment that may improve validity, authenticity, consistency, and ease of understanding.

Where courses are externally moderated, moderation will be carried out with TEOs specified in the moderation plan and will include post-assessment moderation as well as ensuring the assessments are appropriate for the level and the relevant learning outcomes and graduate profile outcomes.

7   PROGRAMME EVALUATION

All students have the opportunity to evaluate individual courses and the programme overall.

8   SAFETY AND RISK MANAGEMENT

EIT's policies and procedures on safety and risk management will apply as they do for all programmes. This complies with all legislative requirements.

9   Academic Regulatory Framework

The EIT ARF and Quality Management System apply to this programme, unless otherwise stated.

The table below shows how EIT Graduate attributes are embedded in the BCS Graduate Profile

	EIT Graduate Attributes			
BCS Graduate Outcomes	1. Lifelong learners who take responsibility for their own learning (Step 3)	2. Effective communicators, networkers and team workers (Step 3)	3. Active participants in and contributors to Aotearoa/New Zealand society (Step 3)	4. Confident studying, working and living in an international context (Step 3)
1. Apply a broad range of Information Technology and Systems (IT/IS) knowledge and skills as well as specialised knowledge and skills in one or more fields of professional IT/IS practice. (Systems Development, Support & Infrastructure, Information Systems, Intelligent Systems),	1.3.3, 1.2.3.1.7.3, 1.8.3, 1.6.3	2.3.1, 2.2.3, 2.3.3, 2.4.3, 2.5.3	3.1.3, 3.3.3, 3.6.3	4.2.3, 4.3.3
2. Advise on, plan for and implement change processes within dynamic and complex organisational environments	1.6.3, 1.7.3	2.2.3, 2.3.3, 2.4.3, 2.5.3,	3.6.3,	
3. Critically evaluate global developments and accepted methodologies in IT/IS for incorporation in their professional practice;			3.5.3	4.3.3
4. Independently pursue new opportunities in a fast changing global environment	1.3.3, 1.6.3	2.8.3		4.1.3
5. Communicate and collaborate to build and maintain effective relationships with a diverse range of individuals, clients, teams and organisations.		2.5.3, 2.6.3, 2.7.3, 2.8.3	3.1.3, 3.2.3	
6. Practise IT/IS in a legal, sustainable, ethical and culturally appropriate manner			3.1.3, 3.2.3, 3.4.3	4.2.3, 4.3.3
7. Recognise the need for information and locate, evaluate and utilise information and data effectively through professional information management practices	1.3.3, 1.8.3	2.1.3, 2.6.3, 2.7.3		4.3.3
8. Demonstrate problem solving, critical thinking, reflective practice, self-management, project management, and systems thinking.	1.3.4, 1.4.3,	2.6.3, 2.8.3		

Approved Programme Changes

AAC Reference #	Date	Area of change	Implementation Date
18082	3/9/18	That <u>ITOS7.608 Advanced Cloud Infrastructure</u> is removed from the core course requirements of the *Support and Infrastructure* major in the Bachelor of Computing Systems (2019).	**Semester 1 2019**
NA	25/1/19	Included section 3.2.7. This section was approved by AAC and NZQA but was accidentally not included in the FINAL document uploaded to the CPR.	**Semester 2 2018**
19098	29/08/2019	**Updated Level 5 pathways to reflect introduction of the Level 5 NZDipIS**	**January 2020**
19145	Dec 2019	**Change of course Name ITSY6.668 from Information Systems security to Cyber Security**	**January 2020**
20131	25 Nov 2020	**Updates for terms delivery mode, inclusion of 2 new taught courses plus 2 new capstone courses.**	**January 2021**