Programme Document

Bachelor of Construction (BCONS)

Level 7, 360 Credits
Programme Reference and Version Number: [103431-3]

This programme leads to the award of the following qualification(s)

Bachelor of Construction (Level 7)

with majors in Construction Management (CM), Construction Economics (CE) and Property Development (Prop Dev).
Level 7, 360 Credits
Qualification Reference and Version Number: [CA2253-4]
Prospectus Code: [CA2253]

School of Building Construction and Engineering
Original Approval Date of Programme: [December 1997]
Programme Document Update 01 February 2021

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PROGRAMME FACTUAL SUMMARY

Mōhiohio pono Hōtaka | Programme Factual Summary

TERTIARY EDUCATION ORGANISATION (TEO) DETAILS	
NZQA Reference No.	C44506
Name of TEO	Unitec Institute of Technology
Ministry of Education No.	6004
QUALIFICATION DETAILS	
Qualification(s) Title (Incl. any endorsements, majors, specialisations or strands if applicable)	Bachelor of Construction with majors in Construction Management (CM), Construction Economics (CE) and Property Development (Prop Dev)
Qualification(s) Number/Version	CA2253-4
Qualification Short Title	BCons
NZSCED Name and No.	040301 - Architecture and Building » Building » Building Science and Technology
Qualification Level	7
Qualification(s) Credit value/range	360
Qualification Type (Certificate, Diploma etc.,)	Bachelors (including intermediate)
Strategic Purpose Statement	The purpose of this qualification is to provide the construction industry with people who have the knowledge, skills and capability to manage construction projects in both New Zealand and International contexts. Graduates will be capable of meeting the immediate and future challenges of professional and leadership demands in their chosen discipline majors such as construction management, construction economics, property development, and transformational constructional technologies. Graduates are eligible for professional memberships of the following professional bodies who accredit or recognise the programme: New Zealand Institute of Building; New Zealand Institute of Quantity Surveyors; Pacific Association of Quantity Surveyors; Property Institute of New Zealand; New Zealand Institute of Building Surveyors; Royal Institution of Chartered Surveyors.
Graduate profile	Common Outcomes 1. Effectively use the common body of technical and applied knowledge related to construction management , construction economics and property development across a variety of construction contexts. 2. Apply professional level communication skills in a range of modes across a variety of construction contexts. 3. Function effectively in multi-cultural and cross-disciplinary teams. 4. Manage the requirements and expectations of different stakeholders in the built environment. 5. Apply business systems and processes in their role in alignment with the environmental, legal and economic contexts of construction projects. 6. Apply analytical, practical and research capabilities to industry issues and critically evaluate options.

	7. Critically review professional skills and engage in life-long learning and professional development. Outcomes specific to Majors 8. Apply the specialist knowledge of construction processes, planning and organisation related to construction projects. (Construction Management Major) 9. Apply the specialist knowledge of cost planning and cost management related to construction projects. (Construction Economics Major) 10. Apply the specialist knowledge of valuation and management related to property (Property Development Major)
Education pathway	Graduates may undertake further study on post-graduate programmes in construction studies or professional development courses offered by industry. Graduates will be eligible for membership of the industry professional bodies that formally accredit the degree, along with other institutions that recognise the qualification.
Employment and/or community pathway	Graduates will be capable of meeting the immediate and future challenges of professional and leadership demands in their chosen discipline majors such as construction management, construction economics, and property development. Graduates are eligible for professional memberships of the following professional bodies who accredit or recognise the programme: New Zealand Institute of Building; New Zealand Institute of Quantity Surveyors; Pacific Association of Quantity Surveyors; Property Institute of New Zealand; New Zealand Institute of Building Surveyors; Royal Institution of Chartered Surveyors.
Next review:	May 2022
Approval date:	December 1997
Qualification developer:	Unitec
PROGRAMME DETAILS	
Programme Name (Incl. any endorsements, majors, specialisations or strands if applicable)	Bachelor of Construction with majors in Construction Management (CM), Construction Economics (CE) and Property Development (Prop Dev)
Programme Level	7
Programme Credit Value	360 (420 with double major)
Programme Code	103431-3
Professional Recognition	New Zealand Institute of Building; New Zealand Institute of Quantity Surveyors; Pacific Association of Quantity Surveyors; Property Institute of New Zealand; New Zealand Institute of Building Surveyors; Royal Institution of Chartered Surveyors.
Programme review:	May 2022
OUTCOME STATEMENTS	
Programme Aim	The purpose of this qualification is to provide the construction industry with people who have the knowledge, skills and capability to manage construction projects in both New Zealand and International contexts. Graduates will be capable of meeting the immediate and future challenges of professional and leadership demands in their chosen discipline majors such as construction management, construction economics, property development, and transformational constructional technologies. Graduates are eligible for professional memberships of the following professional bodies who accredit or recognise the programme: New Zealand Institute of Building; New Zealand Institute of Quantity Surveyors; Pacific Association of Quantity Surveyors; Property Institute of New Zealand; New Zealand Institute of Building Surveyors; Royal Institution of Chartered Surveyors.

Programme Outcome Statement (Graduate Profile)	Common Outcomes 1. Effectively use the common body of technical and applied knowledge related to construction management , construction economics and property development across a variety of construction contexts. 2. Apply professional level communication skills in a range of modes across a variety of construction contexts. 3. Function effectively in multi-cultural and cross-disciplinary teams. 4. Manage the requirements and expectations of different stakeholders in the built environment. 5. Apply business systems and processes in their role in alignment with the environmental, legal and economic contexts of construction projects. 6. Apply analytical, practical and research capabilities to industry issues and critically evaluate options. 7. Critically review professional skills and engage in life-long learning and professional development. Outcomes specific to Majors 8. Apply the specialist knowledge of construction processes, planning and organisation related to construction projects. (Construction Management Major) 9. Apply the specialist knowledge of cost planning and cost management related to construction projects. (Construction Economics Major) 10. Apply the specialist knowledge of valuation and management related to property (Property Development Major)
Endorsement Grades (e.g, with Distinction)	Achievement-Based 11-point Grading System. The award of Senior Scholar is available for this programme
Content Statement	The course contains property construction, law, management, contracts, tendering, design, and business management.
Entry Requirements	Applicants must have: 1. A minimum of 42 credits at NCEA Level 3 or higher on the National Qualifications Framework, with 14 credits at Level 3 or higher in each of two subjects from an approved subject list, with a further 14 credits at Level 3 or higher taken from no more than two additional domains on the National Qualifications Framework or approved subjects plus a minimum of 12 credits at Level 2 or higher in Mathematics or Pangarau on the National Qualifications Framework, plus a minimum of 8 credits at Level 2 or higher in English or Te Reo Māori; a minimum of 4 credits must be in Reading and a minimum of 4 credits must be in Writing; OR 2. At least 3 'C' passes in the New Zealand University Bursaries Examinations; OR 3. Equivalent Special and discretionary admission is available English language requirements: International applicants must also provide evidence that they have the necessary English language proficiency required for the Programme as demonstrated through the use of evidence of one of the kinds described in NZQA Rules on the Unitec English Language Requirements for International Students Web-page.
Entry requirements - Key Information for Students (KIS) website	Applicants may be admitted under general admission with NCEA level 3 credits and English language requirements. Admission under special or discretionary entry may be possible. Programme specific criteria may apply. See Unitec website for full details www.unitec.ac.nz.
ACCREDITATION DETAILS	
Type of Approval Sought	☒ Approval and Accreditation
Proposed Start Date:	Sem1-2021

New programme or existing programme amended:	☒ Existing programme amended		
Brief summary of changes made:	The changes in this application include: the Introduction of a number of new Technology Electives; Change of CONS7908 from Compulsory to Elective; A refresh of the GPO Statements; A refresh of the Strategic Purpose Statement; Addition of Education and Employment Destination advice; Additional admission information for students; Change from Face to Face delivery to Blended Delivery; and modification of delivery teaching hours to reflect actual delivery.		
DAS (unit or achievement standards) credits	N/A		
Unitec credits	360 (420 for double major)		
Total Programme Credit Value	360 (420 for double major)		
Delivery Mode	☒ Blended		
Delivery Methods	Face to face weekly lectures/tutorials Face to face block courses		
To be run:	☒ Full time ☒ Part time ☒ Block		
Assessment Methods	A combination of examinations, practical projects and assignments.		
Assessment standards included	N/A		
Delivery sites	Unitec Campus Mt Albert		
Student Type	☒ Domestic and international		
Nature of funding sought	☒ SAC		
Sub-contracting	☐ Yes ☒ No		
PROGRAMME DURATION DETAILS			
Duration of the Programme		Minimum	Maximum
	Full time:	3 years	10
	Part time:	5 years	10
Number of Years	3 years (3.5 Double Major)		
Duration: Total Weeks		Incl. Holidays weeks	Excl. Holidays weeks
	Full time:	108	96
	Per year:	36	32
Average Hours Per Week	Directed Hours	Work Experience Hours	Self-Directed Hours
	15		22.5
Total Learning Hours Per Week	37.5		
Total Study Hours	3600 hrs (4200 double major)		
Programme Learning Hours Per Year	1200		
Work Experience Type & Expected Location	N/A		
TEC DATA REQUIREMENTS			
Provider Code	6004		
Qualification Award Codes	20		
Student Destination	☒ more academically oriented - designed to lead to entry into advanced research programmes and professions with high skill requirements		

	☐ more occupationally oriented - designed to lead to direct labour market access ☐ designed to lead directly to the labour market
Status	Active
Funding Source	M
EFTS Value	3 Single Major 3.5 Double Major
Expected student intake	80
EFTS Eligibility	☒ Yes ☐ No
Approved for Student Loans and Allowances	☒ Loans and Allowances
Teacher Registration	☒ No
CONTACT DETAILS	
Contacts	Contact 1 Paul Jeurissen Head of School School of Building and Construction Unitec New Zealand Limited (09) 849 8662 pjeuriss@unitec.ac.nz Contact 2 Jackie Tims Lead, Programme Development and Management Te Korowai Kahurangi Unitec Institute of Technology Private Bag 92025 Victoria St West Auckland (09) 849 4321 jtims@unitec.ac.nz

Programme Version Control

Version 1: Programme and Accreditation approved by NZQA [December 1997]
Version 2: Addition of Double Major [November 2002]
Version 2.1: Addition of Property Development Major [December 2005]
Version 2.2: Updated programme document [15 Credit alignment] approved by Undergraduate Board of Studies [October 2008]
Version 2.3: Updated programme document [Living Curriculum alignment] approved by Faculty Academic Committee [October 2013]
Version 3: Type 2 changes to Programme [February 2021]
Version 3.1: Type 1 change [February 2021]
Version 3.2: Type 1 changes to course assessment [May 2024]
Version 3.3: Type 2 change to entry requirements [May 2024]

Summary of Changes

Table 1: Summary of programme improvement and changes

Version No.	Change Type	Approval Date	Approved by	Effective from	Description of change
1	PAA	22/12/1997	NZQA	Sem 1, 1998	Programme approval and accreditation with Majors in Construction Management and Quantity Surveying
2	T2	05/11/2002	NZQA	Sem 1, 2003	Change of name for Quantity Surveying Major to Construction Economics; and Addition of Double Major in Construction Economics & Construction Management
2.1	T2	07/12/2005	NZQA	Sem 1, 2006	Addition of new Major in Property Development; and Addition of Double Major in Construction Economics/Property Development & Construction Management/Property Development
2.2	T2	09/10/2008	UG BoS	Sem 1, 2009	Review and redevelopment of whole programme to a 15 credit units standard.
2.3	T2	10/10/2013	TBE FAC	Sem 1, 2014	Revisions to the structure and content of the programme and changes to the learning and teaching strategy for the programme to align with the Living Curriculum Project.
2.4	T1	14/12/2018	PIC	Sem 1, 2019	Change the pre-requisite of 60 credits at level 7 from CONS 7821 to 105 credits at level 6 Remove the pre-requisites of CONS 7906 for GDCPM students only
3	T2	18/08/2020 01/02/2021	AAC NZQA	Sem 1, 2021 Sem 2, 2021	A refresh of the GPO Statements; A refresh of the Strategic Purpose Statement; Addition of Education and Employment Destination advice; Additional admission information for students; Change from Face to Face delivery to Blended Delivery; and Modification of delivery teaching hours to reflect actual delivery. Change of CONS7908 from Compulsory to Elective; Introduction of a number of new Technology Electives; Remove Elective CONS7825 Advanced BIM in Construction
3.1	T1	25/01/2021 11/02/2021	AACSC	Sem1, 2021	Minor administrative tidy up - The courses which have been superseded and are no longer available but appear as restrictions or pre-requisites on our study plans for all BCONS and GDCPM programmes. Resolve enrolment issues - Remove restriction from CONS5506
3.2	T1	06/05/2024	AACSC	Sem 2, 2024	Changes to course EAPL 5155 Change to assessment types
3.3	T2	29/05/24 06/09/24	AACSC NZQA	Sem 1, 2025	A change to general admission requirements to increase the level of the required Maths credits from Level 1 (14 credits) to Level 2 (12 credits).

1. INTRODUCTION TO THE QUALIFICATION

This document outlines Unitec's capability and delivery arrangements for the Bachelor of Construction [BCons] which leads to the Bachelor of Construction (Level 7), with majors in Construction Management, Construction Economics and Property Development (360 Credits) [CA2253] with the aim of maintaining external accreditation.

The programme meets the definition as listed in the New Zealand Qualifications Framework (NZQF) Listing and Operational Rules. The level and credit value of the qualification to which the programme leads, meets the requirements in the qualification type definitions published in the NZQF.

1.1 Background

The Bachelor of Construction was formally approved and accredited by NZQA in December 1997 with Majors in Construction Management and Quantity Surveying. The programme was updated in 2002 when the Quantity Surveying Major changed its name to Construction Economics and added a Double Major in Construction Economics & Construction Management. In 2005 the Property Development Major was added, and the Double Major option was expanded to include all of the Majors.

Further changes to the programme followed an Institution wide 15 Credit course alignment project which was approved by the Undergraduate Board of Studies in October 2008. The Programme was then updated following revision of its Learning & Teaching methodology as part of the Living Curriculum alignment project initiated by the Academic Board. This was formerly approved by the Trades and Built Environment Faculty Academic Committee in October 2013.

1.2 The programme

The Bachelor of Construction prepares graduates for leading roles in an industry that can be described as: the inception, development, construction and management of the built environment. This industry is essential for the sustainable growth of New Zealand society. The potential leadership and professionalism of these graduates will improve the future performance of the industry. This requires graduates to have the ability to think strategically combined with appropriate theoretical, applied and technical discipline knowledge.

The programme content draws upon an underlying common body of knowledge, as well as the specific knowledge held in the relevant professional disciplines served by the programme.

The Bachelor of Construction is designed to instil ethical behaviour and standards of professionalism to prepare graduates for their role in society.

1.2.1 Unitec's Living Curriculum

The Living Curricula was developed by Unitec in 2009 in order to embed teaching and learning best practice within programme curricula in specific ways. This approach to learning and teaching was designed to ensure that each programme, through its teaching activities, fully engages students in an active learning environment so that deep learning occurs. It also requires teaching practitioners to ensure students are actively engaging with each other in a learning community. The living curricula was designed to produce proactive, forward thinking, self-reflective, critical and socially developed graduates.

All programmes at Unitec were required to redesign their learning and teaching approaches to align with the principles of the living curricula. The BCons completed this work in October 2013 and was given formal approval for the change by the Faculty Academic Committee.

The BCons applies the principles of the *Living Curriculum*, Unitec's philosophy of teaching and learning. This research-informed approach, which focussed on supporting students to become actively engaged with their learning, aligns with international best practice.

The 11 characteristics of the *Living Curriculum* seek to provide an opportunity for students to develop capabilities to deal with the complexity and uncertainty that is a feature of modern workplaces.

The characteristics of the *Living Curriculum* and their applicability in the context of the BCons are described in 4.4 below.

1.2.2 Responsiveness to Māori

Te Noho Kohatitanga

Unitec is committed to creating an education environment that aligns with its obligations to *Te Tiriti o Waitangi*/the *Treaty of Waitangi*. The foundation of this commitment at Unitec is *Te Noho Kotahitanga* - a partnership document built on five principles, which are demonstrated in the Programme in a number of ways.

- **Rangatiratanga (authority and responsibility)**: Māori have authority over, and responsibility for, all teaching and learning relating to Māori dimensions of knowledge.
- **Wakaritenga (legitimacy)**: all stakeholders have a legitimate right to be present, to speak freely in their own language, and to put their resources to use for the benefit of all.
- **Kaitiakitanga (guardianship)**: Unitec accepts responsibility as a critical guardian of knowledge.
- **Mahi kotahitanga (co-operation)**: all actions are guided by a spirit of generosity and co-operation.
- **Ngākau mahaki (respect)**: the heritage and customs, current needs, and future aspirations of Māori and Pākehā are respected and valued.

The principles of Te Noho Kotahitanga also underpin the mātauranga Māori expression of the Living Curriculum, and the Māori Success Strategy. These two elements have an important role in programme development at Unitec, most significantly in the determination of content, pedagogy, and assessment.

1.2.3 Responsiveness to inequity

There are significant equity issues within the Construction industry. Equity issues currently relate to several student groups: Māori, Pacific Island and women students continue to be significantly under-represented in the student body. International and other students, who have recently become resident in New Zealand, while not being an issue of proportional representation, require having their learning needs recognised and accommodated.

The following features utilised by the BCons contribute to enhancing the opportunities for these groups to enter and be successful in the degree programme:

- The philosophical framework, consisting of the statement of Strategic Purpose and Graduate Profile and the Major Specific Aims and Objectives, within which the Degree is offered emphasises both personal and professional development, with learning taking place in a co-operative multi-disciplinary environment.
- Admission entry paths actively seek to accommodate a wide range of educational backgrounds and personal situations, including prior qualification and the assessment of prior learning as stepping-stones into the Programme.
- Multiple study modes, such as block-course and e-delivery enable students to participate by allowing an alternative commitment from that solely of full-time study.
- The negotiable elective components of all majors allow for student-initiated study. The provision of electives, which may be undertaken from courses at Level 6 and Level 7 on offer at Unitec (or elsewhere), allows students to pursue issues specific to them within the construction industry.

2. TITLE, AIMS, LEARNING OUTCOMES AND COHERENCE

This section addresses programme approval Criterion 1 which presents evidence that demonstrates how the programme meets the definition published in the NZQF Listing and Operational Rules.

It also addresses programme approval Criterion 2 by describing the title, aims, stated learning outcomes and coherence of the whole programme to demonstrate that they are adequate and appropriate and that they meet the graduate profile and specification of the qualification as listed on the New Zealand Qualifications Framework.

2.1 Title

The title of this programme is the Bachelor of Construction [BCons]. This is a level 7, 360 credit programme.

This programme leads to the award of the qualification: Bachelor of Construction (Level 7) with majors in Construction Management, Construction Economics and Property Development, (360 Credits) [CA2253].

2.2 Strategic purpose statement[1]

The purpose of this qualification is to provide the construction industry with people who have the knowledge, skills, and capability to manage construction projects in both New Zealand and International contexts. There is a focus on providing equal opportunity in access and participation to empower under- represented groups to participate in the professions in the industry.

Graduates will be capable of meeting the immediate and future challenges of professional and leadership demands in their chosen discipline majors such as construction management, construction economics, and property development. The programme is designed to provide choice and flexibility in the provision of discipline content, to broaden the boundaries of the disciplines and to increase the capacity of students to think strategically.

Graduates will be eligible for professional memberships of the following professional bodies who accredit or recognise the programme: New Zealand Institute of Building; New Zealand Institute of Quantity Surveyors; Pacific Association of Quantity Surveyors; Property Institute of New Zealand; New Zealand Institute of Building Surveyors; Royal Institution of Chartered Surveyors.

2.3 Graduate profile[2]

Graduates of the Bachelor of Construction programme will be able to:

Common Outcomes

1 Changes made as per recommendation from NZQA 15/11/2017 Ref:C30396
The strategic purpose statement requires editing. The six bullet points of the aim statements are repetitive, and the professional/community need is not clearly stated. The aim statements are not appropriate to a level 7 programme. Please rewrite the strategic purpose statement succinctly in a format that clearly states the benefits to the sector/industry, the target learners, and the scope of practice.

2 Changes made as per recommendation from NZQA 15/11/2017 Ref:C30396
The graduate profile/outcome statements do not articulate the depth of knowledge or level of the skills, competencies, and attitudes acquired. The evaluator also notes that some are inappropriately articulated (understand the common body knowledge…, understand the specific body of knowledge, …). There is also a clear overlap among the graduate profile/outcome statements (core and strand specific outcomes). Several learning outcomes do not articulate the depth of knowledge or level of the critical thinking, reflection, and evaluation skills and attitudes acquired.

1. Effectively use the common body of technical and applied knowledge related to construction management , construction economics and property development across a variety of construction contexts.
2. Apply professional level communication skills in a range of modes across a variety of construction contexts.
3. Function effectively in multi-cultural and cross-disciplinary teams.
4. Manage the requirements and expectations of different stakeholders in the built environment.
5. Apply business systems and processes in their role in alignment with the environmental, legal and economic contexts of construction projects.
6. Apply analytical, practical and research capabilities to industry issues and critically evaluate options.
7. Critically review professional skills and engage in life-long learning and professional development.

Outcomes specific to Majors

8. Apply the specialist knowledge of construction processes, planning and organisation related to construction projects. (Construction Management Major)
9. Apply the specialist knowledge of cost planning and cost management related to construction projects. (Construction Economics Major)
10. Apply the specialist knowledge of valuation and management related to property (Property Development Major)

2.3.1 Pathways[3]

Education pathway

Graduates may undertake further study on post-graduate programmes in construction studies or professional development courses offered by industry.

Graduates will be eligible for membership of the industry professional bodies that formally accredit the degree, along with other institutions that recognise the qualification.

Employment pathway

Graduates will be capable of meeting the immediate and future challenges of professional and leadership demands in their chosen discipline majors such as construction management, construction economics, and property development.

Graduates are eligible for professional memberships of the following professional bodies who accredit or recognise the programme: New Zealand Institute of Building; New Zealand Institute of Quantity Surveyors; Pacific Association of Quantity Surveyors; Property Institute of New Zealand; New Zealand Institute of Building Surveyors; Royal Institution of Chartered Surveyors.

2.4 Programme structure

This Programme is structured to achieve the qualification outcomes. Its approaches to learning, teaching and assessment are embedded in components (courses) which are designed to form a coherent programme that demonstrates progression and integration of learning and assessment throughout, to meet the strategic purpose statement, outcome statement, and the level and credit value of the qualification.

3 Education and employment pathways added to align with current practice. These were not required in previous versions of the document.

All students undertaking the BCons complete a set of common courses during their first year, before moving to specialist courses at Level 6 (year two) and Level 7 (year three). The “preferred” mode of study for students is for them to study levels 5 & 6 in two years fulltime and then complete level 7 (third year) over two years of part-time study whilst working in industry. In the first two years, courses are delivered in eight-week terms with the full-time students only studying two courses at a time and part time student’s one course at a time. Courses are delivered in learning workshops either of four hours twice a week or eight hours once a week.

At level 7 the courses are delivered as block courses. For each course the student attends a block of two days twice in a semester. The remaining work is done by self-directed study. We have been delivering these block courses for over a decade and have confidence in them as a mode of delivery. We believe that part time study whilst the students are actively engaged in the industry is a robust model for blending academic learning and practical experience.

2.5 Programme courses

Programme courses have been designed using a constructive alignment approach with clear links between learning outcomes and activities and the graduate profile outcomes of the qualification. Course descriptors for each course are in Appendix 2. Course details are provided through an overview mapping of courses to the Graduate Profile in the table below and a more detailed mapping which clearly demonstrates how the learning outcomes from each of the courses link to the Graduate Profile in the appendix of this document.

Course learning outcomes in this programme:

- are consistent with the programme aims;
- demonstrate how learners will achieve the graduate profile;
- are clear and specified for each component of the programme;
- are measurable and achievable;
- are integrated to provide a balanced and logical programme;
- are presented in a logical, progressive way that demonstrates learners’ development of knowledge, skills, and attitudes.

2.6 Mapping course outcomes to the graduate profile

Table 2: Programme Overview - Courses mapped to Graduate Profile

Course Code	Course Name	GPO 1	GPO 2	GPO 3	GPO 4	GPO 5	GPO 6	GPO 7		GPO 8 CM	GPO 9 CE	GPO 10 PD
		Effectively use the common body of technical and applied knowledge related to construction management , construction economics and property development across a variety of construction contexts	Apply professional level communication skills in a range of modes across a variety of construction contexts	Function effectively in multi-cultural and cross-disciplinary teams	Manage the requirements and expectations of different stakeholders in the built environment	Apply business systems and processes in their role in alignment with the environmental, legal and economic contexts of construction projects	Apply analytical, practical and research capabilities to industry issues and critically evaluate options	Critically review professional skills and engage in life-long learning and professional development		Apply the specialist knowledge of construction processes, planning and organisation related to construction projects. (Construction Management Major)	Apply the specialist knowledge of cost planning and cost management related to construction projects. (Construction Economics Major)	Apply the specialist knowledge of valuation and management related to property (Property Development Major)
CONS5016	Building Science & Materials	*	*			*	*					
CONS5101	Technology 1	*	*			*	*					
CONS5102	Technology 2	*	*			*	*					
CONS5103	Technology 3	*	*			*	*					
CONS5504	Technical Fundamentals	*	*			*	*					
CONS5812	Economic Principles	*	*			*	*					
CONS5818	Property & Construction Law	*	*			*	*					
CONS6008	Building Services	**	**	*	*	**	**	*		**	**	**
CONS6104	Technology 4	**	**	*	*	**	**	*		**	**	**
CONS6201	Measurement & Estimation 1	**	**	*	*	**	**	*			**	
CONS6202	Measurement & Estimation 2	**	**	*	*	**	**	*			**	
CONS6401	Planning & Organisation 1	**	**	*	*	**	**	*		**	*	*
CONS6402	Planning & Organisation 2	**	**	*	*	**	**	*		**		
CONS6811	Tendering	**	**	*	*	**	**	*			**	
CONS6812	Contract Administration	**	**	*	*	**	**	*		**	**	**
CONS6817	Procurement	**	**	*	*	**	**	*		**	**	**
CONS6906	Development & Finance	**	**	*	*	**	**	*			**	**
CONS6907	Property Valuation	**	**	*	*	**	**	*				**
CONS7203	Measurement & Estimation 3	***	***	*	*	***	***	**			***	
CONS7204	Measurement & Estimation 4	***	***	*	*	***	***	**			***	
CONS7403	Planning & Organisation 3	***	***	**	**	***	***	**		***		
CONS7404	Planning & Organisation 4	***	***	**	**	***	***	**		***		
CONS7418	Integrated Design & Construction Management	***	***			***	***	**		***		
CONS7515	People Management	***	***	**	**	***	***	**		***		
CONS7817	Urban Economics	***	***	**	**	***	***	**				***
CONS7820	Professional Business Management	***	***	**	**	***	***	**				***
CONS7821	Industry Project Part 1	***	***	**	**	***	***	***		***	***	***
CONS7822	Industry Project Part 2	***	***	**	**	***	***	***		***	***	***
CONS7905	Property Management	***	***	**	**	***	***	**				***
CONS7906	Property Development	***	***	**	**	***	***	**				***
CONS7908	Property Investment	***	***	**	**	***	***	**				***

Note: Courses listed above are core compulsory courses for the Programme

Key: * = Emerging capabilities, ** = Developing capabilities, *** = Developed capabilities

Full mapping of individual Learning Outcomes to Graduate Profile Statements are located in Appendix 3.

3. PROGRAMME DELIVERY

This section addresses programme approval Criterion 3 by describing the how the delivery methods are adequate and appropriate, given the stated learning outcomes for the programme.

Information in this section demonstrates:

- the appropriateness of the programme's delivery modes (e.g. face-to-face, online/distance, blended);
- the appropriateness of the programme's delivery methods; and
- how academic integrity will be maintained through delivery.

It is important delivery methods do not place learners, staff, or the public at risk. The programme must identify any potential risks and demonstrate how they will be addressed. Delivery methods also need to include consideration of cultural safety and ethical practice.

3.1 Delivery modes

This programme delivery is offered with either full- or part-time options, utilising a primarily face to face with web-based learning support. This is comprised of directed or face-to-face, online, and self-directed delivery modes. The programme does not include formal work-based learning, but, rather, uses a work-integrated approach that leverages students' prior learning experiences.

Level 5 and Level 6 courses are delivered as eight-week or half-semester courses; students studying full-time undertake four courses per semester, while those studying part-time undertake two courses per semester.

Level 7 courses are delivered as block courses across each semester. For each course, students undertake two two-day blocks of directed/face-to-face teaching; online and self-directed learning methods are used to supplement this approach.

The delivery modes have been chosen to meet the needs of students' learning in a context that is most appropriate for the discipline and subject matter of the Programme. The aim is to use delivery methods that successfully achieve the programme aims, graduate profile and learning outcomes of individual courses whilst reflecting the characteristics of a Living Curriculum.

3.2 Delivery methods

Within the framework of the delivery modes discussed above, the BCons adopts a philosophy of teaching and learning that focuses on:

- encouraging development of life-long learning skills by facilitating students' independence as learners;
- 'hands-on' or practical learning as a method for achieving the programme's vocational goals;
- engaging with students' achievements in previous learning experiences;
- an approach to teaching and learning that:
  - is holistic (that is, seeks to leverage the intellectual, emotional, social, physical, artistic/creative, and spiritual potential of all students);
  - adopts the characteristics of Unitec's *Living Curriculum*; and
  - emphasises *Te Noho Kotahitanga* and its principles.

Table 3: Programme teaching and learning methods

Course Code	Course Name	Case-studies & Scenario-based learning	Flipped classroom	Interactive Lectures	Online Learning	Problem-based Learning	Self-directed Learning	Tutorials, Workshops & Labs
CONS5016	Building Science & Materials	√		√	√		√	
CONS5101	Technology 1	√		√	√		√	
CONS5102	Technology 2	√		√	√		√	
CONS5103	Technology 3	√		√	√		√	
CONS5504	Technical Fundamentals	√		√	√		√	
CONS5812	Economic Principles	√		√	√		√	
CONS5818	Property & Construction Law	√		√	√		√	
CONS6008	Building Services	√		√	√		√	
CONS6104	Technology 4	√		√	√		√	
CONS6201	Measurement & Estimation 1	√		√	√		√	
CONS6202	Measurement & Estimation 2	√		√	√		√	
CONS6401	Planning & Organisation 1	√		√	√		√	√
CONS6402	Planning & Organisation 2	√		√	√		√	√
CONS6811	Tendering	√		√	√		√	
CONS6812	Contract Administration	√		√	√		√	
CONS6817	Procurement	√		√	√		√	
CONS6906	Development & Finance	√		√	√		√	
CONS6907	Property Valuation	√		√	√		√	
CONS7203	Measurement & Estimation 3	√	√	√	√		√	√
CONS7204	Measurement & Estimation 4	√	√	√	√		√	√
CONS7403	Planning & Organisation 3	√	√	√	√	√	√	√
CONS7404	Planning & Organisation 4	√	√	√	√	√	√	√
CONS7418	Integrated Design & Construction Management	√	√	√	√		√	
CONS7515	People Management	√	√	√	√		√	
CONS7817	Urban Economics	√	√	√	√		√	
CONS7820	Professional Business Management	√	√	√	√		√	
CONS7821	Industry Project Part 1						√	√
CONS7822	Industry Project Part 2						√	√
CONS7905	Property Management	√		√	√	√	√	
CONS7906	Property Development	√		√	√	√	√	
CONS7908	Property Investment	√		√	√	√	√	

As illustrated in the table above, the programme uses a range of teaching and learning methods, which support students' development towards Graduate Profile Outcomes. The range of strategies

adopted facilitate implementation of, and support for, the *Living Curriculum* and *Te Noho Kotahitanga*.

Case-studies and scenario-based learning

Case-studies and scenario-based learning is employed across all three delivery modes used in the programme. Using case-studies and scenarios from industry, this methodology gives students the opportunity to explore and apply theory, concepts, and models via a problem-solving approach.

Flipped-classroom learning

Linked to other teaching and learning methods, flipped classroom learning inverts traditional modes of delivery by providing theoretical content prior to face-to-face teaching sessions and uses such sessions to discuss and explore pre-distributed content. The programme's learning management system (Moodle) serves as the distribution point, with students being asked to review text and/or audio-visual materials prior to interactive lectures or tutorials. This approach provides opportunities for in-depth discussion, analysis, and application of theory to practice, as well as the use of case-studies and industry-specific problems. In this way, students are able to develop critical-thinking, problem-solving, and communication skills in a safe environment.

Interactive lectures

This methodology weaves 'engagement triggers' into a traditional didactic style of teaching that encourages students to actively participate in teaching and learning. Tools such as audio-visual materials, case-studies or 'real-world' problems, or questions from research are used to facilitate student engagement. In this way, students are given an opportunity to explore concepts, theories, and models, integrate theory with practice, share experiences, and debate relevant issues. This engagement also provides opportunities for formative assessment.

Online learning

Online learning is delivered via the programme's Moodle site, which provides a forum for accessing readings, discussion forums, audio-visual resources, course information (for example, assessment guidelines), a channel for communication with teaching staff, and completing online assessments (for example, self-marking quizzes).

Students use these resources to prepare for upcoming lectures, tutorials, or workshops; review materials; prepare for assessments; and engage in discussion with peers and/or teaching staff. The digital environment also provides an avenue for formative assessment through, for example, the use of informatics to record learning as students progress through the course.

Problem-based learning

Problem-based learning (PBL) provides a forum for students to work in groups to explore theoretical and practical knowledge associated with a given industry-specific problem or challenge. The approach gives students the opportunity to develop in-depth understanding of a given topic, while also supporting development of life-long learning skills, learning independence, and interpersonal and team-work skills.

Self-directed learning

Self-directed study requires students to engage in research either online or in the library for assigned learning tasks and/or assessments. Such activities encourage students to take responsibility for their learning, develop lifelong learning skills, and strengthens their understanding of course content.

Tutorials, Workshops, and Laboratories

Tutorials, workshops, and laboratories are used in a range of ways to support students' development of course-specific skills and knowledge. Tutorials provide students the opportunity to work in small groups to further explore course content, while workshops and laboratories provide opportunities

for development of practical and analytical skills, particularly in the context of VDC/BIM tools and techniques.

3.3 Delivery Sites

Unitec ensures that all delivery sites (including all off-site learning) remain safe and adequate for the programme of study provided, its staff, the number of students enrolled, and for meeting students' specific needs.

The BCons is delivered at the following permanent site(s):

- Mt Albert Campus

3.4 The Living Curriculum

The BCons applies the principles of the *Living Curriculum*, Unitec's philosophy of teaching and learning. This research-informed approach, which focussed on supporting students to become actively engaged with their learning, aligns with international best practice.

The 11 characteristics of the *Living Curriculum* seek to provide an opportunity for students to develop capabilities to deal with the complexity and uncertainty that is a feature of modern workplaces.

The characteristics of the *Living Curriculum* and their applicability in the context of the [abbreviated programme title] are described below.

- Unitec's **programmes involve complex conversations** between teachers, students, relevant industry or community partners, and other key stakeholders. These conversations challenge ideas and provoke new thinking.

  This is demonstrated in these programmes via the use of digital technologies that facilitate such conversations between peers and teaching staff, as well as via the use of guest lectures delivered by field professionals and industry experts.
- Teaching staff work to **stimulate learners' curiosity**, while ensuring inquiry serves as the foundation of students' learning experience.

  Across the BCons, content and learning experiences are embedded in 'real-world' settings, and a problem-based learning approach is used to inspire students and support their development.
- Unitec **programmes integrate learning with work**; workplace knowledge and practice is included as an implicit part of students' learning experience.

  In the BCons, by taking advantage of students' professional experiences and previous learning alongside the use of work-integrated approaches to learning, such integration is assured.
- **Knowledge is socially constructed**; self-sufficiency and collaboration are equally valued, and together they help nurture resourcefulness and resilience.

  Approaches to teaching and learning, as well as chosen assessment methods, strongly support this characteristic in the BCons. This is demonstrated by, for example, the effort put into establishing and maintaining relationships with stakeholders and an emphasis on peer- and group-based learning approaches.
- **Programmes embed mātauranga Māori**; Māori concepts and perspectives are woven into the holistic learning experience.

  This is demonstrated in the BCons via adherence to the principles of *Te Noho Kotahitanga*, use of Unitec's Te Tipare framework in programme design and execution, and weaving Māori perspectives and examples into discussions and content across courses.

- **Programmes blend face-to-face and online learning**, with each process offering a valuable contribution to the learning process.

  In a range of courses, students undertake blocks of directed/face-to-face teaching; online and self-directed learning methods are used to supplement this approach.

- **Programmes are research-informed and encourage research-engagement**; there is a reciprocal relationship between research, teaching, and learning.

  Students are directed to research in the context of assessment events, assigned learning tasks, and research-based projects. In addition, course content is informed by local and international research, supporting work-integrated learning experiences.

- As contemporary workplaces require an ability to work within and across disciplinary boundaries, **programmes have a discipline-base and are inter-disciplinary**.

  The programme emphasises the value of belonging to a discipline while, where appropriate, working across disciplines to achieve outcomes. This is demonstrated by all students who are undertaking any major in the BCons working together in common or 'core' courses across the programme.

- **Programmes develop literacies for life-long learning**, including digital, information, academic, and workplace literacies.

  The programme aims to develop digital, information, academic, and workplace literacies for life-long learning. The programme introduces students to industry-specific software and digital tools, as well as currently common communication methods. The structure of the programme, particularly at Level 7, reinforces the importance of life-long learning and encourages students' independence.

- **Programmes include embedded assessments** that are authentic, and both inform and contribute to the learning process, and students benefit from timely feedback.

  All courses in the programme use assessments based on authentic/'real-world' scenarios, to build students' confidence in performing basic technical tasks efficiently and effectively.

- **Programmes consider issues of sustainability**, including environmental, social, economic, and other relevant sustainability issues.

  Construction industries engage with sustainability issues in a variety of ways including making use of innovative technologies to reduce industry effects on the environment. Wherever possible, the BCons will cover sustainability issues and explore possible solutions that encourage students to consider how they can contribute to sustainable practice.

3.5 Te Noho Kohatitanga

Unitec is committed to creating an education environment that aligns with its obligations to the *Treaty of Waitangi*. The foundation of this commitment at Unitec is *Te Noho Kotahitanga* - a partnership document built on five principles, which are demonstrated in the [abbreviated programme title] in a number of ways.

- **Rangatiratanga (authority and responsibility)**: Māori have authority over, and responsibility for, all teaching and learning relating to Māori dimensions of knowledge.
- **Wakatitenga (legitimacy)**: all stakeholders have a legitimate right to be present, to speak freely in their own language, and to put their resources to use for the benefit of all.
- **Kaitiakitanga (guardianship)**: Unitec accepts responsibility as a critical guardian of knowledge.
- **Mahi kotahitanga (co-operation)**: all actions are guided by a spirit of generosity and co-operation.

- **Ngākau mahaki (respect)**: the heritage and customs, current needs, and future aspirations of Māori and Pākehā are respected and valued.

The principles of Te Noho Kotahitanga also underpin, the mātauranga Māori expression of the Living Curriculum, and the Māori Success Strategy. These two documents have an important role in programme development at Unitec, most significantly in the determination of content, pedagogy, and assessment.

4. PROGRAMME RESOURCES

This section addresses Accreditation Criterion 2 by demonstrating that 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.

This section:

- provides information on the resources needed for programme delivery;
- presents information about institutional resources in reference to how they impact on programme delivery and students' experience within this programme;
- illustrates how resources are comprehensive and sufficient for the programme Level;
- illustrates how resources are appropriate to the methods of delivery; and
- includes information on teaching staff (via a table outlining staffing), teaching and learning facilities, support services, and, where relevant, arrangements for work-based training.

4.1 Programme staffing

The Bachelor of Construction is delivered by over 20 FTE academic staff. In addition, students are supported by work-place supervisors, teaching assistants, tutors, and administrative/support personnel.

In addition to teaching staff within the school, specialist teaching staff from other Unitec Schools are available to for BCons programme. These include cognate Built Environment programmes such as the Master in Architecture, Bachelor of Architectural Design, and Bachelor of Landscape Architecture.

Table 4: Programme teaching staff

Name	Qualifications	Focus Areas
Sadegh ALIAKBARLOU	• PhD • Master of Civil Engineering and Construction Management • Bachelor of Engineering (Civil)	• Construction management • Construction technology and engineering
Terri-Ann BERRY	• PhD • Master of Science (Chemical Engineering) • Bachelor of Science (Hons)	• Environmental studies • Sustainability studies
Roger BIRCHMORE *(MCIBSE, MNZIOB)*	• Master of Professional Management • Bachelor of Technology (Hons) • Certificate of Engineering	• Building services • Construction management • Environmental and materials science
Christopher CARSON	• Master of Arts (Economics) • Diploma of Teaching • Bachelor of Arts	• Construction economics • Contract administration • Professional business management
Amos CLARKE	• Diploma of Architectural Technology • Graduate Diploma of Higher Education • Diploma of Automotive Engineering	• Architectural design and drawing • Construction technology and education
Kathryn DAVIES	• PhD • Master of Building Science • Bachelor of Building Science	• BIM/VDC • Building services and construction management • Environmental and materials science
Polisi FAUMUINA *(Reg Arch)*	• Bachelor of Architecture	• Architectural design and drawing • Construction technology
Rodney HARVEY *(NZCD; RIBA; NZIA; Reg Arch)*	• Master of Science (Construction Management) • Bachelor of Architecture	• Construction design and architecture • Construction psychology, management, and economics
Paul JEURISSEN *(NZCB; NZCQS; AdvTradeCerts; MIPENZ)*	• Master of Project Management • Graduate Diploma of Higher Education	• Construction technology • Project management • Quantity surveying

Linda KESTLE *(FNZIOB; Colleague NZIA)*	• PhD • Master of Philosophy (Architecture) • New Zealand Certificate of Draughting (Architecture) • Diploma of Building • Postgraduate Certificate (Antarctic Studies)	• Construction project management • Construction technology, design, and architecture • Lean construction • Sustainability studies
Anna KIMARO	• Master of Architecture • Bachelor of Science (Building Economics)	• Construction economics • Quantity surveying studies
Lydia KIROFF *(ANZIA; Reg Arch)*	• PhD • Graduate Certificate in Higher Education • Bachelor of Architecture (Hons) • Master of Science (Architecture) • Master of Design Management	• Construction sociology • Construction technology, design, and architecture
Jonathan LEAVER *(CPEng(NZ))*	• Master of Science (Engineering) • Bachelor of Engineering (Hons) • Diploma of Engineering Technology (Geothermal) • PhD	• Energy use and planning • Environmental noise and air pollution • Environmental studies
Chan LUBAN	• Master of Engineering (Construction Management) • Bachelor of Engineering	• BIM/VDC • Construction technology • Project management
Malachy MCGARRIGAL	• Bachelor of Science (Architecture) (Hons) • Advanced Diploma in Professional Practice in Architecture (RIBA Pt3) • Adv Dip FE	• BIM/VDC • Construction technology, design, and architecture • Regulatory Environments
Randall MCMULLAN *(MCIOB; MInstPhys)*	• Bachelor of Science (Physics) • Master of Science (Geophysics)	• Environmental and materials studies
David NUMMY *(MNZIOB)*	• New Zealand Certificate in Draughting (Architecture) • Diploma of Building • Bachelor of Construction Management (Hons)	• Construction management • Lean construction
Geoffrey PARISH *(FAMINZ(Arb))*	• Certificate of Adult Education • Diploma in Business Studies • Bachelor of Science (Hons) • Bachelor of Laws	• Construction and site management • Contract administration • Legal studies • Regulatory environments
David PHILLIPS *(MIPENZ; CPEng(NZ))*	• PhD • Bachelor of Technology (Environmental Studies) (Hons) • New Zealand Certificate in Engineering (Civil)	• Environmental studies • Sustainability studies
Afjalur RAHMAN	• Master of Science • Bachelor of Engineering (Civil)	• Construction management • Construction technology and engineering
Riffat SHAHEED	• Master of Science • Bachelor of Engineering (Civil)	• Construction management • Construction technology and engineering
Taija PUOLITAIVAL *(MNZIOB; M BRE Academy)*	• PhD (Pending) • Master of Science • Doctoral studies – Constr Mgt and Economics	• BIM/VDC • Construction management and engineering • Planning and organisation
Industry teaching staff		
Joseph CHALMERS *(NZIA)*	• MArch (NZ & Germany) Bachelor of Architectural Studies	Construction design and technology
Tomasz GLOWACKI	• Bachelor of Mechanical Engineering • Project Management Professional Certification • 6SigmaPlus – Black Belt • 6Sigma for DFSS – Green Belt in Lean Management	• Construction technology • Construction project management • Quality management • Business system management
Patrick HANLON	• Master of Business Administration • Master of Business (Construction Economics)	• Quantity surveying • Construction economics

(FRICS; FAIQS; FCIOB; MNZIQS; GSNZAP; Reg QS)	• Bachelor of Business (Construction Economics) (Hons)	
HUTANA, Steve *(NZIA, Ngā Aho)*	• Master of Architecture (Prof) • New Zealand Certificate of Draughting (Architecture)	• Construction technology • BIM/VDC • Construction design and architecture
Neil LAING	• Master of Management • Bachelor of Business Studies • Graduate Diploma in Management • DipCD	• Management studies • Organisational development

In addition to the academic staff there is a strong team of technical staff supporting the school as a whole.

Staff development

In accordance with Unitec's policies, all teaching staff are required to develop professional development plans that provide an opportunity for staff involved with the programme to build their skills and knowledge.

4.2 Teaching facilities and physical resources

Teaching facilities and physical resources are designed to support the implementation and sustained delivery of the programme, in all modes of delivery.

The BCons has put in place the necessary teaching facilities and physical resources. Teaching and learning activities are based at Unitec's Mount Albert Campus, using a range of teaching and learning spaces, which include:

- whiteboards or smartboards;
- high-capacity Wifi;
- multimedia and audio-visual facilities; and
- a data-show computer projection unit.

In addition, BCons (TE) students have access to:

- a shared manual drafting studio;
- computer studios/laboratories, which include the latest AutoCAD® suite of BIM/CAD programmes and relevant engineering, estimating, and project management software;
- mixed-media laboratories
- civil engineering laboratory for materials, soils, and hydraulics;
- geology and chemistry laboratories;
- student research/design and learning areas;
- a survey store; and
- a global navigation satellite system base-station.

4.3 Library services

Candidates have access to Unitec's physical and online libraries, which support the teaching, learning and research needs of the Unitec community, through its collection and resources, and its librarians, including dedicated postgraduate librarians.

Facilities

Unitec Library includes two physical libraries, as well as the online library. Each library provides access to individual and group study spaces, photocopiers, scanners, desktop computers and laptops.

Te Puna Library (Mt Albert) houses central library services and provides collections and services for a wide range of subjects. As part of a cutting-edge student hub, there are a wide variety of individual and group study areas, a teaching space, computers and laptops, and student printing services.

The Waitākere Library (Waitākere) provides collections and services for subjects taught at this campus, including health, medical imaging, nursing, and social practice. This library provides study spaces, computers and laptops, and student printing services.

Collection

The print collection is made up of over 100,000 books and 252 current journal subscriptions; the online collection provides access to over 300,000 e-books and full-text electronic journals.

The library's website provides access to:

- the library catalogue;
- bibliographic and full-text databases;
- information on research methods and guidance;
- subject pages for each specific subject area taught at Unitec, which directs students to find the most relevant databases and websites easily;
- the *Study Toolbox*, an area of the website that supports assignment writing and study skills; and
- the *Unitec Research Bank*, an online open-access digital repository for Unitec-produced research and theses.

Links to databases and/or specific articles can be embedded into Moodle™ courses or other learning platforms; all electronic resources the library subscribes to can be accessed by staff and learners using their PeopleSoft login.

Library services

Unitec's library provides a professional, efficient service to its users, helping students become information-literate. Librarians provide students and staff with research support, and can be contacted in person, via telephone, e-mail, or instant messaging.

Each programme has a Subject Librarian who works with academic staff; they are responsible for collection development and providing research and information support to students.

Students and staff can access all books, audio-visual materials, and journals across the four sites. The library offers a free delivery service of books, journal articles, and book chapters to all learners who live outside Auckland. An inter-library loan and document delivery service is also available to all staff and postgraduate learners.

4.4 Information Management Systems

The following information technology services are employed to support delivery of this programme:

Student Application and enrolment Management	Students need to be able to apply for the programme online. This will be done through the www.unitec.ac.nz application portal and be captured and processed via the Unitec PeopleSoft Student management system (PeopleSoft).
User Access Control to Unitec learning applications and systems	Student accounts will be setup and managed centrally by Unitec with each student receiving a secure individual username and password. By default all staff and students will be assigned an account in the student email system. All staff and students are allocated 1TB of space in their OneDrive @ Unitec NZ.

Unitec Student Self Service	myUnitec Secure Services available to students to manage their personal Unitec information: MyProfile – View and edit your personal information. MyFiles – H: drive folders (Staff see this as J: drive). Policies and Procedures. Student Self Service – View your enrolments and grades.
Access to Computer Technology	Computer labs are onsite at Unitec Campus locations available for students to use to access and complete course material.
Unitec Wireless	Wireless access points provide wireless coverage in most areas at all Unitec campuses (Mt Albert & Waitakere). Unitec students and staff can connect personally owned laptops to the wireless network and take advantage of Internet connectivity, e-mail and a range of applications on the Unitec network. Unitec has two wireless networks for students, UNITEC-ELEARN (recommended) and UNITEC-HOTSPOT.
Online Learning Systems	The delivery of the course content will be through the Unitec Moodle Learning Management System. This will be augmented with moderated online meetings and breakout rooms using Zoom, and other online platforms such as Peerwise.
Record of learning	The student record of learning will be stored in Moodle for course content and assessment submission, Mahara for learning portfolios and PeopleSoft for achievement and grade data.
Specific software requests	As required
Specific Hardware requests	As required

Information Management Systems Impact Statement

Impact Description	Level of Impact (H/M/L)	Mitigation
Students do not have their own computers at home to access online material	High	Unitec has computer labs available for students to provide computer access. The labs are available during open hours.
Students are not able to make best use of the online systems due to lack of training and or support	High	Student Support, orientation, course tutors and coordinators. Students will be provided with advice on how to better support themselves when off-campus, including resources for self-directed learning of IT skills.
Students require assistance outside standard support hours	medium for the off-site students	Course tutors and coordinators.

4.5 Student guidance and support

Unitec provides a number of guidance, support systems, and facilities for students.

Student support team

The Student Support Team is comprised of four student support services detailed below.

Learning and achievement

The **Access4Success Disability Service** works in partnership with students with disabilities to identify strengths and potential barriers to learning and participation at Unitec. They provide resources such as:

- note-takers;
- NZ Sign Language interpreters;
- digital recorders;
- reader/writers for exams;
- processing of exam accommodation requests such as extra time and/or separate rooms; and
- Access Co-ordinators who can advocate on behalf of students and liaise with academic staff and other internal and external support networks.

Learning Advisors (General, Māori, and Pacific) provide academic support to students in Te Puna (the centralised student hub), Puukenga, and the Pacific Centre.

This team provides services to students to strengthen a wide range of academic study skills, including:

- academic writing;
- language development;
- maths calculations and statistics;
- physics and chemistry;
- referencing;
- critical thinking;
- time management;
- spelling and punctuation; and
- specialised post-graduate skills.

Services can be accessed via self-help resources on the Study toolbox, small group and/or one to one appointments in person or via Skype™, e-mail, or phone, scheduled workshops and workshops-on-demand.

Student development

The **Career Development Team** provides a service to help students develop good employability skills, become job ready, and develop the skills needed to effectively manage their careers. These services are available while students' study (to help them take advantage of opportunities throughout the study year), when they graduate, and as they transition into employment.

They run workshops throughout the year on topics including CV development, interview preparation, and personal brand, and also provide one-to-one career guidance appointments.

To supplement these services, a range of career resources are available online for students via the career's website, Moodle™, and social media platforms.

Student well-being

Multi-faith **Chaplaincy Services** provide spiritual reflection, prayer, and personal support.

Confidential **support and counselling services** support learners with concerns about their study and/or personal matters. Accessed through the Mt Albert campus at Te Puna Waiora or at Waitākere campus by appointment.

The **Student Health Centre** provides access to affordable and comprehensive health, well-being, and medical services for students, accessed through the Mt Albert campus at Te Puna Waiora.

Student Support advisers are a key connection point for students to the range of support services available to them. They are available for social support and pastoral care for students managing the demands of study alongside other commitments. This team has responsibility for the delivery of the Youth Guarantee programme and also administer financial support to students in the form of hardship assistance, scholarships, and study grants.

Student engagement

These services cover:

- Unitec scholarships and awards;
- the Student Complaints Resolution;
- the Graduation Team; and
- co-ordination of Student Advocacy Services delivered through Kāhui Tū Kaha.

Unitec promotes and supports positive and proactive student engagement through student clubs, societies, and sports groups, as well as **Experience NZ** activities tailored to international students.

In addition, Unitec funds student-led initiatives and Student Job Search Services via the Unitec Student Council.

An independent student advocacy service is provided by Kāhui Tū Kaha, a Ngati Whatua organisation that provides mental health/social support services in the Auckland region. Student advocates provide a safe place for Unitec students to discuss and find resolution to any concerns, complaints, or issues that are impacting their studies.

Māori student services

Provided for Māori learners, these services promote and maintain an awareness of Unitec's *Māori Strategy* and *Te Noho Kotahitanga*. The services provided are embedded in Unitec's *Student Experience Services* and are delivered from the Te Puna Student Centre, Puukenga building, and Te Noho Kotahitanga Marae. Services include:

- general information;
- academic learning support, including one-to-one, small-group, and workshop sessions;
- specific social and cultural support for Māori learners and their whānau;
- study space, computer support, and kai space;
- course advice for new and prospective learners and enrolment advice for new learners;
- the Whai Ake Māori mentoring programme;
- assistance with the acknowledgement of prior learning applications;
- financial advice, including assistance with student loans and allowances, and Māori grants and scholarships; and
- advocacy services and administration (including advice and referrals to all Unitec support services).

The **Māori Student Services Team** works closely with Unitec's Schools and other operational support services.

While Māori Student Services are particularly oriented toward Māori, the philosophy is integrated into the wider Student Experience service provision strategy.

Pacific Centre

This centre provides a number of services at Unitec, including:

- a Pacific Orientation for first-year Pacific learners;

- a Fanau Evening that encourages learners to bring their families onto campus to meet staff and learn more about their family member's course of study;
- an end-of-year celebratory dinner for graduates and their families; and
- computers and study spaces which can be used by learners for self-directed study and learning.

The **Pacific Centre** works closely with the **Student Experience Team** and, in particular, the Pacific Academic Development Lecturers and Student Support Advisors. Both teams can be made available at the Pacific Centre if required.

International

Unitec's **International Office** has a 'one-stop-shop' model that includes:

- marketing and recruitment of international learners;
- developing and maintaining institutional partner and agent relationships;
- running a student-exchange programme;
- handling enquiries and assessing applications for entry;
- setting international tuition fees;
- processing student visas and, where applicable, post-study work visas;
- advising on insurance; and
- running a bi-annual international orientation.

This team is also a signatory to the *Code of Practice of Pastoral Care for International Learners*.

Student Central

Student Central shop fronts are located across both Unitec campuses and are there to assist prospective and current learners with their enquiries – from first enquiry to graduation and beyond.

Each centre has the capacity to issue ID cards, and the Mt. Albert campus also has cashiering facilities.

5. ASSESSMENT AND MODERATION

This section addresses Programme Approval Criterion 6 by presenting evidence that assessment methodology is fair, valid, consistent and appropriate, given the stated learning outcomes, and there is an effective system for moderation of assessment materials and decisions.

It also addresses Accreditation Criterion 1 by demonstrating how the institution has the capability and capacity to ensure assessment materials and decisions are fair, valid, consistent and appropriate, given the stated learning outcomes.

This section includes an explanation of:

- the programme's assessment rationale;
- what the programme places value on;
- how standards of achievement will be maintained;
- how assessment schemes/schedules have been developed and how they are appropriate for the programme;
- how assessment planning will occur; and
- how, in particular, Objectives 3 and 5 of Unitec's Māori Success Strategy have been realised in developing assessment strategies for this programme.

5.1 Assessment

Assessment practices adhere to Unitec's *Assessment, Moderation and Grades Policy*. This policy mandates that:

- all Unitec programmes employ appropriate assessment and feedback practices that enhance the quality of student learning and evaluate achievement;
- assessments will be consistent with the requirements of the *Academic Development and Approval Policy*;
- will be fair, valid and consistent; and
- utilise transparent processes.

Over time, it is anticipated that programme feedback and course/student evaluations will result in refinements to assessment methods and events.

In addition to this policy, a network of policies and procedures attached to Unitec's *Academic Statute* (including the *Programme Regulations*) is used to guide and address issues of:

- appeals;
- assessment criteria;
- content;
- estimation;
- extra time;
- information;
- marking turn-around;
- scheduling; and
- supervision.

Working within the statute and relevant policies, procedures and regulations allows teachers to assess students' progress in a way that is fair for students and that can adequately measure learning.

Assessment approaches and tools are designed to be diverse and responsive to students' preferred learning and teaching styles[4].

The assessment process is designed to:

- evaluate the achievement of the programme aims and objectives;
- assess students' capabilities in a fair, valid, and reliable manner;
- stimulate and enhance learning;
- provide students with feedback regarding their own learning for and developmental purposes; and
- evaluate students' achievement and the demonstration of specified learning outcomes.

5.2 Assessment in the Bachelor of Construction

Assessment in this Programme is governed by Unitec's Assessment and Grading Procedures and Regulations.

5.2.1 Assessment basis

Assessment in this programme uses both formative and summative assessment practices. Summative assessment is achievement based using an 11-point grading scale.

Students must obtain at least 50% overall score in any achievement-based course in order to pass that course.

In order to achieve a passing grade for a course in which there is a final examination, all students must achieve at least 40% in the final examination for that course.

All assessment events in each course are compulsory unless noted otherwise.

5.2.2 Assessment methods

The following assessment methods may be used as formative and/or summative tools. Each method identified may be utilised to assess theory and/or practical/clinical applications. The table below show the matrix of methods that are used across the BCons.

Table 5: Programme assessment methods

Course Code	Course Name	Coursework	Examinations
CONS5016	Building Science & Materials	√	√
CONS5101	Technology 1	√	√
CONS5102	Technology 2	√	√
CONS5103	Technology 3	√	√
CONS5504	Technical Fundamentals	√	√
CONS5812	Economic Principles	√	√
CONS5818	Property & Construction Law	√	√

4 Unitec Institute of Technology (2016). *Learning and Teaching at Unitec Institute of Technology, New Zealand*.

CONS6008	Building Services	√	√
CONS6104	Technology 4	√	√
CONS6201	Measurement & Estimation 1	√	√
CONS6202	Measurement & Estimation 2	√	√
CONS6401	Planning & Organisation 1	√	√
CONS6402	Planning & Organisation 2	√	√
CONS6811	Tendering	√	√
CONS6812	Contract Administration	√	√
CONS6817	Procurement	√	√
CONS6906	Development & Finance	√	√
CONS6907	Property Valuation	√	√
CONS7203	Measurement & Estimation 3	√	√
CONS7204	Measurement & Estimation 4	√	√
CONS7403	Planning & Organisation 3	√	√
CONS7404	Planning & Organisation 4	√	√
CONS7418	Integrated Design & Construction Management	√	√
CONS7515	People Management	√	√
CONS7817	Urban Economics	√	√
CONS7820	Professional Business Management	√	√
~~CONS7825~~	~~Advanced BIM in Construction~~	~~√~~	~~√~~
CONS7821	Industry Project Part 1	√	
CONS7822	Industry Project Part 2	√	
CONS7905	Property Management	√	√
CONS7906	Property Development	√	√
CONS7908	Property Investment	√	√

The entries in Table 5 above reflect the assessments defined by the course descriptors which typically specify **Coursework** 70% and **Examination** 30%.

Coursework

Coursework can include case studies, practical work and group work, as described below. Most courses use online quizzes and tests as components of coursework. The range of strategies adopted facilitate implementation of, and support for, the *Living Curriculum* and *Te Noho Kotahitanga*.

Assignments/reports

For the BCons, assignments primarily take the form of essays or reports, which provide students the opportunity to explore a topic in greater depth and/or provide evidence of learning in a specific area. In particular, reports give students experience with presenting information in a specific, industry-used format.

These assessment events encourage students to critically engage with programme content, while providing opportunities for development of skills around life-long learning and professional communication.

Case-studies

In this programme, case-studies are used in a similar fashion to essays: to give students an opportunity to explore a topic in greater depth, while engaging in critical engagement with subject

matter. The key point of difference is that, with case-studies, students are able to use 'real-world' examples or scenarios to carry out this exploration and engagement.

Group/peer collaborative assessments

This method gives students the opportunity to demonstrate evidence of development of 'soft skills', such as teaming and leadership skills, while also providing the opportunity to work with peers to demonstrate understanding of a specific area of practice. For example, group presentation work requires students to work together to research and present a chosen topic.

Practical demonstrations

These assessments give students the opportunity to demonstrate their ability to complete a range of practical/clinical tasks. Students demonstrate work-based practical skills, for example, lab-work, which is then assessed by teaching staff.

Presentations

Presentations give students an opportunity to demonstrate depth of understanding of specific material, and their ability to respond to peer- and/or supervisor-review. Presentations may also assess communication or writing skills, and a range of research skills. These may be formal verbal presentations; poster presentations; or multi-media presentations. Presentations may be aligned with other assessments, such as field reports, case-studies, or group projects.

Tests/quizzes

Tests are used to assess students' development of specific areas of knowledge; consequently, they are designed to motivate students to engage with theoretical material. While tests are typically summative in nature, they may also act as formative assessments as part of students' progress towards a larger piece of assessment. Tests may be in a short-answer, multiple-choice, or short essay form; they may be delivered in-class or online.

Examinations

Examinations provide students the opportunity to demonstrate in-depth evidence of learning in a selected set of topics. These events can take the form of short- or long-answer questions, in which students are required to answer a question, solve a problem, or discuss a course-specific topic.

5.3 Feedback

Learners are provided with fair and regular feedback on progress and fair reporting on final achievements in accordance with Unitec Policy and Procedure. Teaching staff contributing to the programme strive to provide constructive feedback in a timely fashion. Feedback on formative assessment activities (for example, group discussions or online quizzes) may be provided orally and/or in writing. Oral feedback is provided in the context of tutorials or interactive lectures, while written feedback is typically provided via automated marking sheets or via teaching staff members' posts in Moodle discussion forums. All feedback is provided immediately following the formative assessment event.

Feedback on summative assessment events (for example, presentations) is provided in writing. Typically, this involves use of a marking sheet, which identifies the criteria used during marking and which provides the student's grade and accompanying comments. In addition to individualised feedback, teaching staff will post general comments in online forums. Occasionally, where common themes are apparent in a set of assessment submissions, feedback will be discussed in-class.

Results are provided to students no later than 10 working days following the assessment submission date. Where this cannot be achieved, course tutors will liaise with the Academic Leader.

5.4 Course workload

Teaching staff are responsible to ensure students' workload is spread evenly across a semester. This is co-ordinated through the use of an assessment planner, completed at the start of the academic year as part of the moderation process. The assessment planner ensures assessments are spaced so that a cohort of student's hand in no more than one summative assessment in a given week. An additional strategy for mitigating work-load risks is the use of assessment events that assess multiple learning outcomes.

To ensure students can plan and prepare appropriately, they are provided with information about the assessment requirements for each individual course at the start of the semester. This information explicitly identifies due dates for assessment events, as well as supporting details (for example, assessment schedules). In addition, students are provided with an overall or larger assessment 'map' that illustrates the timing of assessment events across courses in a given semester.

5.5 Assessment in Te Reo Māori

All students have the right to submit any summative assessment task in Te reo Māori. The process for submission of summative assessment work in Te reo Māori is governed by the Unitec Assessment in Te Reo Māori procedure and detailed in course material.

5.6 Assessment moderation

Unitec's *Moderation of Assessment Procedure* requires internal and external moderation of summative assessments in all Unitec programmes that lead to the award of a formal qualification. Moderation is defined as the review processes used to assure the quality of summative assessments.

The purpose of moderation is to provide the learners and stakeholders assurances that assessment practices have produced credible results.

Moderation is a process of independent peer/stakeholder review of summative assessment material and judgements. It is designed to ensure assessment:

- is consistent, fair, valid, and reliable;
- items assess the appropriate learning outcomes and match information provided to learners at the beginning of the course;
- events are consistent with the teaching, learning, and assessment philosophy of the programme;
- is based on the approved achievement criteria specified in the programme and described in the *Programme Regulations*; and
- procedures are managed effectively and applied fairly.

Furthermore, moderation adds value to qualifications by providing assurances they are credible, while adding value to teaching and learning by providing teachers with feedback on where and how to improve assessment practices.

The outcomes of moderation are reported in the annual *Programme Evaluation Plan* (see section 8.3.1).

Moderation includes:

- a Moderation Plan;
- an External Moderation Report;
- pre- and post-event Internal Moderation Checklists; and
- the pathway's response to the *External Moderation Report*.

Moderation is completed in accordance with the *Moderation Plan* which is overseen by the Programme Academic Quality Committee.

5.6.1 Internal moderation processes

Responsibility for internal moderation lies with an internal staff member recognised as having expertise in assessment within the discipline area of the relevant course.

Pre-event moderation

All courses are subject to internal moderation of all summative assessment items.

The Academic Leader, in discussion with the Head of Schools, will include a list of moderators in the programme's *Moderation Plan* at the start of the year. Each course is allocated an internal moderator, who completes the *Internal Moderation Checklists*.

Pre-event moderation activities will ensure assessment items are clear, accurate, appropriate for the course-Level, and meet the course learning outcomes associated with each assessment item.

Post-event moderation

Post-event moderation, which involves completion of a checklist, is performed on all assessments for each course.

Using a sample of assessment scripts, the moderator reviews judgements made about students' work; moderators review assessments with the highest, middle, and lowest marks.

Post-event moderation is used to check the consistency of assessors' marking decisions, and to recommend any changes to an assessment that may improve its validity, authenticity, and consistency.

5.6.2 External moderation processes

Courses are subject to regular external moderation by an independently nominated peer and/or stakeholder.

Typically, each course will undergo external moderation at least once every three years; selected courses may, however, be moderated annually if internal moderation identified a concern or negative student feedback indicates this step to rectify course issues.

The moderator is supplied with:

- the programme's Graduate Profile;
- course details;
- a range of assessment samples;
- assessment marking schedules; and
- any additional assessment information provided to students.

The external moderator will examine the:

- suitability of tasks;
- extent to which assessment tasks align with the learning outcomes, course content, and the programme's Graduate Profile;
- fairness, consistency, and appropriateness of judgments made about students' work;
- value of feedback for learners; and
- the extent to which feedback enhances and promotes learning.

In 2019 the following NZIST Subsidiaries agreed to a system of External Moderation for their existing and emerging Bachelor of Construction Programmes–

- ARA at Christchurch
- Otago Polytechnic
- Southland Institute of Technology
- Unitec

The Programme of future external moderation across the Subsidiaries is shown in Table 6

External moderation for the BCONS will be undertaken by a range of qualified teachers from a range of appropriate Tertiary Teaching Organisations (TTO).

Table 6: Moderation planning

Course	Pre-moderation	Internal Post-moderation	External moderation	Moderator
All Courses	Prior to each delivery	Prior to grades approval following each delivery	End of first delivery of each course or following any change to assessment Then each course on a three-year cycle	Qualified teachers from a range of appropriate TTO's.

In addition to these external moderation activities:

- a complete review of courses is conducted annually by external examiners from the Sydney office of the Royal Institute of Chartered Surveyors; and
- for some specialised Level 7 courses, benchmarking activities are conducted in partnership with the University of Newcastle (New South Wales) and the Queensland University of Technology.

Specific detail of moderation will be outlined in the Annual Moderation Plan developed and approved by the Programme Academic Quality Committee.

Each Programme Academic Quality Committee maintains a schedule of moderation for each Programme that it is responsible for. The ongoing moderation plan for this programme is available on request.

5.7 Assessment of Prior Learning (APL)

In accordance with Unitec's *Assessment of Prior Learning Procedure*, current and/or prospective students may apply to complete the programme or individual courses under Assessment of Prior Learning (APL); this refers to the process of evaluating informal or non-formal learning or evaluating evidence of formal **and** informal learning.

APL is available for all courses in this Programme. Students seeking to apply for APL may contact the Academic Programme Manager, who leads the APL process, for general or specific enquiries.

Upon enquiry, prospective students will be provided information around the:

- costs associated with the process;
- methods used during APL, including the type of evidence required; and
- process timelines.

As described in the *Assessment of Prior Learning: Student Guidelines*, students are encouraged to discuss the course(s) they are intending to apply for under APL, to ascertain whether or not the process will be suitable for them.

Students seeking to apply for courses under APL will be required to provide evidence that demonstrates prior learning of skills and/or knowledge specified in individual course learning outcomes.

Once received, evidence submitted by students is assessed by the Delegated Academic Authority against the programme's Graduate Profile Outcomes and the learning outcomes of the specific course(s) students are applying for under APL.

The APL process has been especially useful for Bachelor of Construction students who could not complete their degree because of a variety of life and employment circumstances. Typically, they completed 300 credits or more and now have 10 to 25 years of relevant industry experience.

6. PROGRAMME REGULATIONS

Bachelor of Construction [BCons]

To be read in conjunction with Unitec's Academic Statute and associated Policies and Procedures.

These programme regulations apply to Bachelor of Construction [BCons] programme, which leads to the Bachelor of Construction (Level 7) qualification, with majors in Construction Management, Construction Economics and Property Development (360 Credits) [CA2253].

These regulations come into effect from Semester 1, 2025.

1. Ngā Ture Hei Whakaurunga | Admission Requirements *Admission Requirements comply with Unitec's Admission Requirements Guidelines.*	To be eligible for admission to this programme, all applicants must meet three admission requirements: a. Requirements for either general admission, special admission, or discretionary admission b. Any additional Programme specific requirements c. English language requirements **1.1 Whakaurunga Whānui | General Admission** To be admitted to this programme all applicants must be at least 16 years of age on the date of the programme's commencement for the semester in which they wish to enrol (or provide a completed Early Release Exemption form), and meet the following requirements: • A minimum of 42 credits at NCEA Level 3 or higher on the National Qualifications Framework, with 14 credits at Level 3 or higher in each of two subjects from an approved subject list, with a further 14 credits at Level 3 or higher taken from no more than two additional domains on the National Qualifications Framework or approved subjects plus a minimum of 12 credits at Level 2 or higher in Mathematics or Pangarau on the National Qualifications Framework; OR • At least 3 'C' passes in the New Zealand University Bursaries Examinations; OR • Equivalent **1.2 Whakaurunga Motuhake | Special Admission** Applicants must have: a. attained the age of 20 years on or before the first day of the semester in which study for the programme is to commence; and b. provided sufficient evidence of aptitude or appropriate work or other life experience that would indicate a successful outcome in the qualification. **1.3 Whakaurunga Kōwhiringa | Discretionary Admission** In exceptional cases an applicant who does not meet the general admission requirements and who has not reached the age of 20 on or before the first day of the semester in which study for the Certificate is to commence may apply for discretionary admission. In assessing whether to grant discretionary admission in exceptional cases, the primary focus will be on the applicant's level of preparedness for study at the required level. **1.4 Whakaurunga Tautui | Programme Specific Requirements** There are no Programme Specific requirements. **1.5 Whakaurunga Reo Pākehā | English Language Admission Requirements** Applicants must have achieved a minimum standard of English as demonstrated by a minimum of 8 credits at NCEA Level 2 in English (4 in Reading, 4 in Writing). International applicants must also provide evidence that they have the necessary English language proficiency required for the Programme as demonstrated through the use of evidence of one of the kinds described in NZQA Rules on the Unitec English Language Requirements for International Students Web-page.

2. Paearu Kōwhiri Tukanga| Selection Criteria & Process

Selection Criteria and Processes comply with Unitec's Admission Requirements Guidelines.

2.1 Paearu Kōwhiri | Selection Criteria

When the number of eligible applicants for admission exceeds the number of places available, the following selection criteria will be applied:

- Potential to succeed;
- Motivation to participate;
- Understanding of the field of study;
- Membership of a group under-represented in the relevant professions

Applicants who meet the maximum number of listed criteria will be the preferred candidates

2.2 Tukanga Kōwhiri | Selection Process

Selection will be made by Unitec staff members with the delegated authority to offer places to applicants. These staff members will select students on the basis of written information supplied on the enrolment form. At the discretion of the staff members, an interview (face-to-face or electronic) may be required. A list of delegated staff members is maintained by the Programme Academic Quality Committee (PAQC) responsible for the programme.

3. Ngā Ture Hei Whakawhiwhi Tohu Mātauranga | Requirements for the Award of the Programme

Requirements comply with Unitec's Programme Completion and Awards Policy and associated procedure.

3.1 Whakaemi Tūtukitanga | Credit Accumulation

To be awarded the Bachelor of Construction with a single major a student must successfully complete a minimum of 360 credits in the pattern set out in Table 1a-c from the courses set out in Table 2a-c depending on their chose major.

To be awarded the Bachelor of Construction with a double major see 3.1.1 below.

Table 1a: Credit Requirements for Bachelor of Construction - Construction Economics Major

Level	Compulsory Credits	Elective Credits	Total Credits
5	105		105
6	120		120
7	60	15	75
5, 6 or 7		60	60
			360

Table 1b: Credit Requirements for Bachelor of Construction - Construction Management Major

Level	Compulsory Credits	Elective Credits	Total Credits
5	105		105
6	105		105
7	90		90
5, 6 or 7		60	60
			360

Table 1c: Credit Requirements for Bachelor of Construction – Property Development Major

Level	Compulsory Credits	Elective Credits	Total Credits
5	105		105
6	90		90
7	90		90
5, 6 or 7		75	75
			360

The award of the BCons may also be attained by application of an approved modified programme of study as noted in Schedule 1.

Table 2a: Course Details – Bachelor of Construction - Construction Economics Major

Compulsory courses are shown in **bold** and Elective courses in *italics*.

Course No	Course Name	Credits	Pre- requisites	Co-requisites	Restrictions
Level 5					
CONS5101	**Technology 1**	**15**			
CONS5102	**Technology 2**	**15**			
CONS5103	**Technology 3**	**15**			
CONS5016	**Building Science & Materials**	**15**			
CONS5504	**Technical Fundamentals**	**15**			
CONS5812	**Economic Principles**	**15**			
CONS5818	**Property & Construction Law**	**15**			
CONS5505	**Team Management**	**15**			
CONS5506	*Construction Communication and Documentation*	*15*			
EAPL5155	*English for Specific Purposes*	*15*			
Level 6					
CONS6008	**Building Services**	**15**			
CONS6104	**Technology 4**	**15**	**CONS5101 & CONS5102**		
CONS6817	**Procurement**	**15**			
CONS6812	**Contract Administration**	**15**	**CONS5818**		
CONS6201	**Measurement & Estimation 1**	**15**	**(CONS5101 or CONS5102) and CONS5504**		
CONS6202	**Measurement & Estimation 2**	**15**	**CONS6201**		
CONS6811	**Tendering**	**15**	**CONS5818 and CONS5504**		
CONS6906	**Development & Finance**	**15**			
CONS6007	*Sustainable Design and Construction*	*15*	*CONS5016*		
CONS6101	*Building Performance*	*15*	*CONS5103 and CONS5016*		
CONS6102	*Virtual Design and Construction 1*	*15*	*CON5103*		
CONS6401	*Planning & Organisation 1*	*15*	*CONS5504 and (CONS5101 or CONS5102)*		
CONS6402	*Planning & Organisation 2*	*15*	*CONS6401*		
CONS6907	*Property Valuation*	*15*	*CONS5818*		
Level 6 Unspecified Elective		*15*			
Level 7					
CONS7821	**Industry Project Part 1**	**15**	**105 level 6 credits**		
CONS7822	**Industry Project Part 2**	**15**	**CONS7821**		
CONS7203	**Measurement & Estimation 3**	**15**	**CONS6202 and CONS6104 and CONS6008**		
CONS7204	**Measurement & Estimation 4**	**15**	**CONS6202 and CONS6104**		
CONS7403	*Planning & Organisation 3*	15	CONS6402		
CONS7404	*Planning & Organisation 4*	15	CONS6402		
CONS7418	*Integrated Design & Construction Management*	15	CONS6817		
CONS7515	People Management	15			

CONS7817	Urban Economics	15	CONS5812 or CONS5802		
CONS7820	Professional Business Management	15			
CONS7105	*Advanced Construction Technology*	*15*	*CONS6104 and CONS6402*		
CONS7111	*Building Pathology*	*15*	*CONS5103 and CONS5106*		
CONS7112	*Virtual Design and Construction 2*	*15*	*CONS6102*		
CONS7113	*Technologies in Practice*	*15*	*CONS6104 and CON6402*		
CONS7905	*Property Management*	*15*			
CONS7906	*Property Development*	*15*	*CONS6906 or CONS6818*		
CONS7908	*Property Investment*	*15*	*CONS6906*		
Level 7 Unspecified Elective		*15*			

Table 2b: Course Details – Bachelor of Construction - Construction Management Major
Compulsory courses are shown in **bold** and Elective courses in *italics*.

Course No	Course Name	Credits	Pre- requisites	Co-requisites	Restrictions
Level 5					
CONS5101	**Technology 1**	**15**			
CONS5102	**Technology 2**	**15**			
CONS5103	**Technology 3**	**15**			
CONS5016	**Building Science & Materials**	**15**			
CONS5504	**Technical Fundamentals**	**15**			
CONS5812	**Economic Principles**	**15**			
CONS5818	**Property & Construction Law**	**15**			
CONS5505	**Team Management**	**15**			
CONS5506	*Construction Communication and Documentation*	*15*			
EAPL5155	*English for Specific Purposes*	*15*			
Level 6					
CONS6008	**Building Services**	**15**			
CONS6104	**Technology 4**	**15**	**CONS5101 & CONS5102**		
CONS6817	**Procurement**	**15**			
CONS6812	**Contract Administration**	**15**	**CONS5818**		
CONS6401	**Planning & Organisation 1**	**15**	**CONS5504 and (CONS5101 or CONS5102)**		
CONS6402	**Planning & Organisation 2**	**15**	**CONS6401**		
CONS6811	**Tendering**	**15**	**CONS5818 and CONS5504**		
CONS6007	*Sustainable Design & Construction*	*15*	*CONS5016*		
CONS6101	*Building Performance*	*15*	*CONS5103 and CONS5016*		
CONS6102	*Virtual Design and Construction 1*	*15*	*CON5103*		
CONS6201	*Measurement & Estimation 1*	*15*	*(CONS5101 or CONS5102) and CONS5504*		

CONS6202	*Measurement & Estimation 2*	*15*	*CONS6201*		
CONS6906	*Development & Finance*	*15*			
CONS6907	*Property Valuation*	*15*	*CONS5818*		
Level 6 Unspecified Elective		*15*			
Level 7					
CONS7403	**Planning & Organisation 3**	**15**	**CONS6402**		
CONS7404	**Planning & Organisation 4**	**15**	**CONS6402**		
CONS7418	**Integrated Design & Construction Management**	**15**	**CONS6817**		
CONS7515	**People Management**	**15**			
CONS7105	*Advanced Construction Technology*	*15*	*CONS6104 and CONS6402*		
CONS7111	*Building Pathology*	*15*	*CONS5103 and CONS5106*		
CONS7112	*Virtual Design and Construction 2*	*15*	*CONS6102*		
CONS7113	*Technologies in Practice*	*15*	*CONS6104 and CON6402*		
CONS7203	*Measurement & Estimation 3*	*15*	*CONS6202 and CONS6104 and CONS6008*		
CONS7204	*Measurement & Estimation 4*	*15*	*CONS6202 and CONS6104*		
CONS7817	*Urban Economics*	*15*	*CONS5812 or CONS5802*		
CONS7820	*Professional Business Management*	*15*			
CONS7828	*Advanced Construction Law*	*15*	*CONS5818 and CONS6812*		
CONS7905	*Property Management*	*15*			
CONS7906	*Property Development*	*15*	*CONS6906 or CONS6818*		
CONS7908	*Property Investment*	*15*	*CONS6906*		
Level 7 Unspecified Elective		*15*			

Table 2c: Course Details – Bachelor of Construction – Property Development Major
Compulsory courses are shown in **bold** and Elective courses in *italics*.

Course No	Course Name	Credits	Pre- requisites	Co-requisites	Restrictions
Level 5					
CONS5101	**Technology 1**	**15**			
CONS5102	**Technology 2**	**15**			
CONS5103	**Technology 3**	**15**			
CONS5016	**Building Science & Materials**	**15**			
CONS5504	**Technical Fundamentals**	**15**			
CONS5812	**Economic Principles**	**15**			
CONS5818	**Property & Construction Law**	**15**			
CONS5505	**Team Management**	**15**			
CONS5506	*Construction Communication and Documentation*	*15*			
EAPL5155	*English for Specific Purposes*	*15*			
Level 6 Common Courses					

CONS6008	**Building Services**	**15**			
CONS6104	**Technology 4**	**15**	**CONS5101 & CONS5102**		
CONS6817	**Procurement**	**15**			
CONS6812	**Contract Administration**	**15**	**CONS5818**		
CONS6906	**Development & Finance**	**15**			
CONS6907	**Property Valuation**	**15**	**CONS5818**		
CONS6007	*Sustainable Design and Construction*	*15*	*CONS5016*		
CONS6101	*Building Performance*	*15*	*CONS5103 and CONS5016*		
CONS6102	*Virtual Design and Construction 1*	*15*	*CONS5103*		
CONS6201	*Measurement & Estimation 1*	*15*	*CONS5101 or CONS5102) and CONS5504*		
CONS6202	*Measurement & Estimation 2*	*15*	*CONS6201*		
CONS6401	*Planning & Organisation 1*	*15*	*CONS5504 and (CONS5101 or CONS5102)*		
CONS6402	*Planning & Organisation 2*	*15*	*CONS6401*		
CONS6811	*Tendering*	*15*	*CONS5818 and CONS5504*		
Level 6 Unspecified Elective		*15*			
Level 7					
CONS7821	**Industry Project Part 1**	**15**	**105 level 6 credits**		
CONS7822	**Industry Project Part 2**	**15**	**CONS7821**		
CONS7817	**Urban Economics**	**15**	**CONS5812 OR CONS5802**		
CONS7820	**Professional Business Management**	**15**			
CONS7905	**Property Management**	**15**			
CONS7906	**Property Development**	**15**	**CONS6906 or CONS6818**		
CONS7908	*Property Investment*	*15*	*CONS6906*		
CONS7105	*Advanced Construction Technology*	*15*	*CONS6104 and CONS6402*		
CONS7111	*Building Pathology*	*15*	*CONS5103 and CONS5106*		
CONS7112	*Virtual Design and Construction 2*	*15*	*CONS6102*		
CONS7113	*Technologies in Practice*	*15*	*CONS6104 and CON6402*		
CONS7203	*Measurement & Estimation 3*	*15*	*CONS6202 and CONS6104 and CONS6008*		
CONS7204	*Measurement & Estimation 4*	*15*	*CONS6202 and CONS6104*		
CONS7403	*Planning & Organisation 3*	*15*	*CONS6402*		
CONS7404	*Planning & Organisation 4*	*15*	*CONS6402*		
CONS7418	*Integrated Design & Construction Management*	*15*	*CONS6817*		
CONS7515	*People Management*	*15*			
CONS7828	*Advanced Construction Law*	*15*	*CONS5818 and CONS6812*		

Level 7 Unspecified Elective		*15*			

3.1.1 Bachelor of Construction with Double Major

Students are allowed to complete a double major by combining two majors of their choice. The following double majors are available:

- Construction Economics / Construction Management;
- Construction Economics / Property Development;
- Construction Management / Property Development.

To be awarded the Bachelor of Construction with a second major, a student must successfully complete 420 credits consisting of one full major (360 credits) and 60 credits from one other major as detailed in Tables 2d-2f below. Course selection must satisfy any rules for a course, such as pre-requisites.

Table 2d: Second Major by adding *Construction Economics*

Level	Course	Credits
All compulsory and elective courses for a specific major as described in Tables 2a – 2c above; and		**360**
6	**CONS6201 Measurement & Estimation 1**	**15**
6	**CONS6202 Measurement & Estimation 2**	**15**
6	**CONS6906 Development & Finance**	**15**
7	**CONS7203 Measurement & Estimation 3** **OR** **CONS7204 Measurement & Estimation 4**	**15**

Table 2e: Second Major by adding *Construction Management*

Level	Course	Credits
All compulsory and elective courses for a specific major as described in Tables 2a – 2c above; and		**360**
6	**CONS6401 Planning & Organisation 1**	**15**
6	**CONS6402 Planning & Organisation 2**	**15**
7	**CONS7403 Planning & Organisation 3**	**15**
7	**CONS7404 Planning & Organisation 4**	**15**

Table 2f: Second Major by adding *Property Development*

Level	Course	Credits
All compulsory and elective courses for a specific major as described in Tables 2a – 2c above; and		**360**
6	**CONS6906 Development & Finance**	**15**
6	**CONS6907 Property Valuation**	**15**
7	**CONS7905 Property Management**	**15**
7	**CONS7906 Property Development**	**15**

A student may not normally complete an additional major in less than one year of study. To complete an additional major in one additional year, a student may be required to undertake some concurrent study in each major.

3.2 Mahi Waehanga Pāhekoheko | Integrated and Work-based components

There are no integrated or work based components in this programme.

3.3 Mahi Akoranga I A Wāhanga | Course Load per Semester

	The normal full-time course load is 60 credits per semester, or 75 credits with the approval of the relevant academic authority. **3.4 Whakaurunga Takiwā | Enrolment Periods** The normal enrolment period is four years full-time study (2 years full-time and 2 years part-time) or six years (part-time study). Students who are prevented by ill health, or other cause, from completing the programme requirements within the maximum period of enrolment, the relevant academic authority may approve suspension of enrolment for up to a maximum of one semester The maximum period to complete this Programme is 10 years. **3.5 Whakawhiwhi Tāpiripiri| Additional Awards** **3.5.1 Senior Scholar Award** To be eligible for consideration to receive a Senior Scholar Award a student must have: a. achieved a cumulative Grade Point Average (GPA) of 8.0 (there is no rounding) or better across all degree courses for which s/he has been assessed in the programme; and b. achieved at least 2/3 of the total credits for the degree through enrolment in Unitec courses (i.e. have achieved no more than 1/3 of the credits by cross credits from another institution or by the assessment of prior learning).
4. Tūtukitanga Whakamihi | Credit Recognition *Credit Recognition complies with Unitec's Assessment, Moderation and Grades Policy and associated procedure.*	**4.1 Whakawhiti Tūtukitanga | Cross Credit** Credits will not be awarded for successful study that took place more than 5 years prior to the date of first enrolment in the programme. a. A student may be awarded credits or exemptions in recognition of successful equivalent study, at the same or a higher level in the context of another programme. b. The credit recognition may be: i. specified, where there is direct equivalence of the learning outcomes of a completed course and a course in the programme; or ii. unspecified, where the previous study has taken place in a programme with a similar philosophy but there is no exact match in the programme's courses. **4.2 Aromatawai Tōmua | Assessment of Prior Learning (APL)** Assessment of Prior Learning is available for all courses in this programme. APL decisions will be made on a case-by-case basis under the Unitec Assessment of Prior Learning Procedure. **4.3 Ngā whakawhitinga | Credit Transfer** Credit transfer is available for students who have completed any of the following programmes: • Unitec Bachelor of Architectural Studies • New Zealand Certificate in Architectural Draughting or a National Diploma in Architectural Technology • National Diploma in Construction Management • a New Zealand Certificate in Quantity Surveying or a National Diploma in Quantity Surveying Bachelor of Property from the University of Auckland Details for each is listed in Schedule 1 below.
5. Waeture Aromatawai | Assessment Regulations *Assessment Regulations comply with Unitec's Assessment, Moderation and Grades Policy and*	**5.1 Paparahi Aromatawai | Assessment Basis** Assessment in this programme is achievement based using an 11 point grading scale. Students must obtain at least 50% overall score in any achievement based course in order to pass that course. In order to achieve a passing grade for a course in which there is a final examination, all students must achieve at least 40% in the final examination for that course. **5.2 Ākoranga Taumata | Course grades** Course grades will be determined by the mathematical aggregation of weighted assessment marks and reported according to the following scales. Participants must obtain at least 50% overall score in order to pass achievement-based assessment. ***Table 3: Achievement based 11-point assessment system***

associated procedure.

Grade	Meaning	Result	Percentage
A+	Distinction	Credits Earned	90 – 100
A	Distinction	Credits Earned	85 – 89
A-	Distinction	Credits Earned	80 – 84
B+	Merit	Credits Earned	75 – 79
B	Merit	Credits Earned	70 – 74
B-	Merit	Credits Earned	65 – 69
C+	Pass	Credits Earned	60 – 64
C	Pass	Credits Earned	55 – 59
C-	Pass	Credits Earned	50 – 54
D	Fail	No Credits Earned	40 – 49
E	Fail	No Credits Earned	0 – 39

5.3 Paearu Taumata | Grade Criteria

Students may be awarded one of the following grades for a course:

Table 4: Grade Criteria

Grade	Meaning	Criteria
CR	Credit Recognition	The student has applied for and been awarded a credit recognition from another qualification
CTG	Continuing	The Course runs for more than one semester and the final Summative Assessment has not yet occurred. No Credits earned
DEF	Deferred	The student has approval to complete a Course Assessment beyond the schedule date. Unless an exception has been approved, any Deferred Grade remaining on a student's record beyond a duration equal to that of the original course will be changed to the grade to which the student would otherwise be entitled. No Credits earned.
DNC	Did not Complete	The grade DNC (Did Not Complete) is recorded if a student has either withdrawn after 75% of the scheduled Course duration; or not attempted a compulsory item of Assessment within a Course. No Credits earned.
ES	Student Exchange	The student has completed an approved inter-institutional exchange, and it is not appropriate for another grade to be awarded. No Credits earned.
NGA	No Grade Associated	Course assessment and reporting of results are not required for this course or are carried out by an external agency. No Credits earned
R	Restricted Pass	The student has been awarded a restricted pass subject to Relevant clause in this schedule. Credits earned.
W	Withdrawn	The student withdraws from a Course after 10% of the scheduled Course duration and up to, or at, the date at which 75% of the scheduled Course has passed. No credits earned.
#	Estimated Grade	If any portion of Summative Assessment has been estimated, the final grade will be an estimated grade and annotated "#" on the Student's Academic Record.

6. Aromatawai Mahinga | Assessment Procedures

6.1 Ākoranga Aromatawai | Course Assessment

Courses employ both formative and summative assessment activities. Formative assessments do not contribute to the final grade for a given course. All summative assessment elements are compulsory unless otherwise approved and noted in course information.

Assessment Procedures comply with Unitec's Assessment Moderation and Grades Policy and associated procedure.	Students must attempt all compulsory assessment activities in order to pass and receive credit for any course. Students who do not attempt a compulsory item of assessment may be awarded a 'Did Not Complete'(DNC) for the whole course and may not earn any credits. **6.2 Aromatawai I Roto I Te Reo | Assessment in Te Reo** All students have the right to submit any summative assessment task in Te reo Māori. The process for submission of summative assessment work in Te reo Māori is governed by the Unitec Assessment in Te Reo Māori procedure and detailed in course material. **6.3 Tāpaetanga Tōmuri | Submission and late submission of work** a. The due dates for all summative assessment work will be notified at the commencement of each course. b. Any assessment that is submitted late (and does not have a prior approved extension) will be penalised by a deduction of 10% per day of the participants assignment mark, up to five (5) days, inclusive of weekends. c. Applications for extensions must be made by according to procedure noted in Student Handbooks and course documentation. d. Any extension will be carried out within a specified time period as agreed with the relevant academic authority and no further extensions will be granted. e. No assignment will be accepted five (5) days (inclusive of weekends) after the due date. If the assessment is not compulsory, the participants will receive a 'zero' grade for that assignment. If the assignment is compulsory, then the participants will receive a Did Not Complete (DNC) grade for the entire course. **6.4 Whakamātautau Anō | Resubmission or Reassessment** A student may apply to undertake a resubmission/reassessment for a failed assessment (D Grade) within 5 days of receiving their marked assessment. The following conditions apply: a. only one reassessment or resubmission per course. b. no more than 30 per cent of the course value of assessment may be submitted for re-assessment. c. resubmission/reassessment is not available for any controlled assessments (i.e. tests, and examinations). d. Any approved resubmission/reassessment will be carried out within a specified time period as agreed with the relevant academic authority. e. In all cases for resubmission, the original marked assignment will accompany resubmitted assignments. If resubmitted work is not accompanied by the original marked assignment, the resubmitted work will not be marked, and the original grade will stand. f. The maximum grade for any resubmission/reassessment of an assessment is the lowest pass grade. g. Assignments that are handed in late are not eligible for resubmission or reassessment. **6.5 Āhuatanga Aromatawai Motuhake | Affected Performance Consideration** A student may apply for Affected Performance Consideration (APC) if: • The student is unable to attend an examination, compulsory assessment or fixed time and place assessment activity due to illness, injury, bereavement or other critical circumstances • The student's preparation for, or performance in an examination or any summative assessment has been seriously impaired due to circumstances beyond their control Applications for APC are made by a student within 5 working days of the affected assessment event. Decisions to approve an APC and to apply any remedy are made according to the Assessment and Grading Procedures and Regulations. **6.6 Pāhi Rāhui | Restricted Pass** A restricted pass may be awarded in a course which was narrowly failed and where there is ample evidence that marginal failure is compensated by good overall performance. a. A restricted pass is awarded at the discretion of the relevant academic authority and may not be applied for directly by a student.

	b. The relevant academic authority may, at their discretion, use a restricted pass to: • set conditions for future performance in other courses • prevent a student from using a restricted pass to meet the prerequisite requirements of another course. c. A student may not receive a restricted pass for more than two courses in any one academic year d. A student may decline the award of a restricted pass by notifying the relevant academic authority in writing not later than 20 working days from notification of the results. **6.7 Tuaruatanga | Repeating Courses** Students who are repeating a Level 1–8 course would normally be required to submit all assessment items. In some cases, with the prior approval of the relevant academic authority, students may not be required to repeat an equivalent assessment item that they had previously passed. This should be negotiated within the first two weeks of the commencement of the course and will specify any course grade that will be carried over. Students may enrol and repeat a course that they have failed only once. Permission to enrol for a third time is governed by Exclusion provisions below. **6.8 Whakakorenga | Exclusions** No student will be allowed to enrol in any course more than twice unless there are exceptional circumstances approved by the relevant academic authority. a. Any Student who fails to achieve at least 50 per cent of the credits that he or she is enrolled in in any 12-month period may be excluded by the relevant Academic Authority from re-enrolling in any further courses. The decision whether students can re-enrol in further courses will be based on a student's likelihood of succeeding in further study and will be made by the relevant Head of School. b. When calculating the 12-month period in a. above, Unitec reserves the right to include any relevant time spent by the student studying at another tertiary institution. c. A Student who has not achieved a Pass Grade in the same Course on two occasions shall not be enrolled again for that Course except with the permission of the relevant Academic Authority. d. The relevant Academic Authority will advise the student in writing of their decision, and the reasons for such decision, and any orders made. **6.9 Examination Regulations** All formal examinations in this programme are governed by the Unitec Examinations Regulations. **6.10 Tono Pīra | Appeals** Students may appeal the decisions made under these regulations in accordance with the Student Appeal Procedure.
7. Whakaritenga Whānui | General Provisions	**7.1 Whakamāramatanga ā-kaupapa | Definition of Terms** In these regulations, unless the context otherwise requires, the following definitions shall apply: • 'Relevant academic authority' refers to an individual or role holder, or in some cases a committee, who have been delegated the authority to make a decision within a specific circumstance. A schedule of the various relevant academic authority delegations is maintained by the Programme Academic Quality Committee responsible for the Programme. **7.2 Āhuatanga Tauwhirowhiro Ritenga | Transitional Arrangements** Students who have credits completed in the programme prior to 2009 and 2014 will have the total value of those credits recognised as part of their Bachelor of Construction programme of study. In all such circumstances, where the student would otherwise be disadvantaged, a modified individual course of study shall be approved by the relevant Academic Authority. Where a student's course of study results in a credit short fall unspecified credits of up to 6 credits at any level may be granted with the approval of the relevant Academic Authority. Any student who failed a course that is no longer available will complete a different course in negotiation with academic staff.

8. Kupu Āpiti | Schedules or Appendices

Schedule 1: Transfer Arrangements from Other Programmes or Courses

Transfer from NZ Diploma programmes and related programmes

For students from the Level 6 NZ Diploma in Construction (Construction Management and Quantity Surveying) or the NZ Diploma in Architectural Technology the following entry pathways will be available:

a. For a completed Diploma, in the discipline of a BCons major, a student will be given 210 credits and entry to the programme at a point appropriate to their chosen major.
b. For a completed Diploma, in the discipline of a BCons major and completed with above average academic performance, a student will be given 210 credits, plus the opportunity to gain 30 credits via two 15-credit courses (CONS6601 Transition Studies 1 and CONS6602 Transition Studies 2). These 30 credits must be achieved before entry to the third year of the degree.
c. For a completed Diploma, together with significant and appropriate industry experience, a student will be given 240 credits and entry to the third year of the degree.

For transition from other Level 6 diploma programmes in construction and infrastructure areas a similar pattern of credits may be possible; on a discretionary basis. In assessing whether to grant discretionary admission the primary focus will be on the applicant's level of preparedness for study at the required level.

Schedule 2: Hōtaka Whakarerekē O Ngā Āhuatanga Ako | Modified Programmes of Study

Progression from Sichuan College of Architectural Technology (SCAT)

Students transferring may commence their study in the BConst programme at the commencement of Semester 1 (approximately calendar week 8), OR Semester 2 (approximately calendar week 29).

Note: Level 7 courses are delivered 2 weeks prior to the commencement of Unitec's official Semester start dates.

Students must successfully complete courses set out in the tables A, B or C below depending on their specialisation:

Table A: Construction Economics Major

Course Number/Course Name	Level	Credits
Students must complete:		
EAPL5155 English for Specific Purposes	**5**	**15**
CONS6104 Technology 4	**6**	**15**
CONS6201 Measurement and Estimating 1; OR CONS6202 Measurement and Estimating 2	**6**	**15**
CONS6817 Procurement; OR CONS6812 Contract Administration	**6**	**15**
CONS6906 Development & Finance	**6**	**15**
CONS7203 Measurement and Estimation 3	**7**	**15**
CONS7204 Measurement and Estimation 4	**7**	**15**
CONS7418 Integrated Design & Construction Management	**7**	**15**
CONS7515 People Management	**7**	**15**
		135 Credits
Students choose two elective courses from either:		
CONS7105 Advanced Construction Technology*	***7***	***15***
CONS7111 Building Pathology	*7*	*15*
CONS7112 Virtual Design and Construction 2	*7*	*15*
CONS7113 Technologies in Practice	*7*	*15*
CONS7817 Urban Economics	*7*	*15*
CONS7820 Professional Business Management	*7*	*15*
CONS7821 Industry Project Part 1	*7*	*15*
CONS7822 Industry Project Part 2	*7*	*15*
		30 Credits
On successful completion of the above, students will be awarded the following Unspecified Cross-credits to meet the requirements of the Programme.		
Unspecified Level 6 credits	6	90
Unspecified Level 7 credits	7	105
		195 Credits

*Please note these courses are timetabled as an agreed SCAT student Construction Economics study pathway. Other elective courses by specific agreement with relevant Academic Authority may extend study duration.

Table B: Construction Management Major

Course Number/Course Name	Level	Credits
Students must complete:		
EAPL5155 English for Specific Purposes	**5**	**15**
CONS6006 Sustainable Design and Construction; OR CONS6104 Technology 4	**6**	**15**
CONS6812 Contract Administration; OR CONS6817 Procurement	**6**	**15**
CONS6401 Planning and Organisation 1; OR CONS6402 Planning and Organisation 2	**6**	**15**
CONS7403 Planning and Organisation 3	**7**	**15**
CONS7404 Planning and Organisation 4	**7**	**15**
CONS7418 Integrated Design & Construction Management	**7**	**15**
CONS7515 People Management	**7**	**15**
		120 Credits
Students choose two elective courses from either:		
CONS7111 Building Pathology	*7*	*15*
CONS7112 Virtual Design and Construction 2*	***7***	***15***
CONS7113 Technologies in Practice	*7*	*15*
CONS7105 Advanced Construction Technology*	***7***	***15***
CONS7817 Urban Economics	*7*	*15*
CONS7820 Professional Business Management	*7*	*15*
CONS7821 Industry Project Part 1	*7*	*15*
CONS7822 Industry Project Part 2	*7*	*15*
		30 Credits
On successful completion of the above, students will be awarded the following Unspecified Cross-credits to meet the requirements of the Programme.		
Unspecified Level 6 credits	6	105
Unspecified Level 7 credits	7	105
		210 Credits

*Please note these courses are timetabled as an agreed SCAT student Construction Economics study pathway. Other elective courses by specific agreement with relevant Academic Authority may extend study duration.

Table C: Property Development Major

Course Number/Course Name	Level	Credits
Students must complete:		
EAPL5155 English for Specific Purposes	**5**	**15**
CONS5016 Building Science and Materials	**5**	**15**
CONS5103 Technology 3	**5**	**15**
CONS6008 Building Services	**6**	**15**
CONS6104 Technology 4	**6**	**15**
CONS6817 Procurement; OR CONS6906 Development and Finance	**6**	**15**
CONS7820 Professional Business Management	**7**	**15**
CONS7905 Property Management	**7**	**15**
CONS7906 Property Development	**7**	**15**
		135 Credits
Students choose three elective courses from either:		
CONS7908 Property Investment	*7*	*15*
CONS7418 Integrated Design and Construction OR CONS7515 People Management**	*7*	*15*
CONS 7105 Advanced Construction Technology OR CONS7112 Virtual Design and Construction 2**	*7*	*15*

CONS7817 Urban Economics	*7*	*15*
CONS 7821 Industry Project Part 1	*7*	*15*
CONS 7822 Industry Project Part 2	*7*	*15*
		45 Credits
On successful completion of the above, students will be awarded the following Unspecified Cross-credits to meet the requirements of the Programme.		
Unspecified Level 6 credits	6	75
Unspecified Level 7 credits	7	105
		180 Credits

*Please note these courses are timetabled as an agreed SCAT student Construction Economics study pathway. Other elective courses by specific agreement with relevant Academic Authority may extend study duration.

7. PROGRAMME ACCEPTABILITY AND CONSULTATION

This section addresses Approval Criterion 4 by presenting the acceptability of the programme and consultation.

The consultation associated with the original accreditation of this Programme may be found in the last approved Programme Definitive Document [October 2013]. The following details consultation undertaken in support of this updated programme document.

Reasons for Change	Summary of Internal and External Consultation
The new elective courses focus on modern and emerging construction, digital, and other technologies employed in the design, construction, and lifecycles of buildings or other structures. The courses are designed to meet the needs of a range of areas in the construction industry and to be capable of on-going adaption to meet changing sector needs. The content of the courses has been evolving over several years alongside changing needs of the construction industry as described by national, regional, and individual stakeholder consultations. The courses have strong support from national industry stakeholders, including the New Zealand Institute of Building and their associated firms; New Zealand Institute of Building Surveyors; and national BIM interest groups.	Programme consultation involves a range of stakeholders, who can be grouped as follows. • Professional/accrediting bodies including New Zealand Institute of Building and, by association, the Australian Institute of Building; New Zealand Institute of Quantity Surveyors (NZIQS); Pacific Association of Quantity Surveyors (PAQS); and the Royal Institution of Chartered Surveyors (RICS). • Industry groups, employers and local authorities; • Current BCons students and graduates; • Māori stakeholders, including practitioners specialising in mātauranga Māori-led design; Māori professionals; and Unitec's Kaihautū and Pou Huritao. Employer workshops centred on the ability of the programme to response to emerging new construction technologies. This was a focus of the Unitec 5-year review of the degree carried out in 2017.
Earlier versions of the Bachelor of Construction programme document contained several expressions of a graduate profile, such as 'programme aims'. The essential content and intent of these statements has been constant. The statements have now been re-expressed in a manner which aligns with the recommended format of the National Qualification Framework and allowed a progression mapping of course learning outcomes.	The acceptability to stakeholders of the graduate profile has been regularly appraised during the lifetime of the programme. In recent years, employer responses to the graduate profile have been formally sought via the following mechanisms. • Employer events connected with the 2013 review of programme content and new delivery patterns commencing in 2014. • Employer workshops centred on the ability of the programme to response to emerging new construction technologies. This was a focus of the Unitec 5-year review of the degree carried out in 2017. • An employer questionnaire distributed in March 2020 and put on hold because of the Covid19 situation.
Previous designation of *Face to Face only (intramural)* did not reflect evolving practice. These changes were reinforced by delivery practice during the Covid 19 Lockdown.	Programme consultation involves a range of stakeholders, who can be grouped as follows. • Professional/accrediting bodies including New Zealand Institute of Building and, by association, the Australian Institute of Building; New Zealand Institute of Quantity Surveyors (NZIQS); Pacific Association of Quantity Surveyors (PAQS); and the Royal Institution of Chartered Surveyors (RICS). • Industry groups, employers and local authorities; • Current BCons students and graduates; • Māori stakeholders, including practitioners specialising in mātauranga Māori-led design; Māori professionals; and Unitec's Kaihautū and Pou Huritao.

7.1 Programme consultation

7.1.1 Stakeholders

Extensive consultation was undertaken across 2019 to inform previously proposed changes and also these current changes (See Appendix 3)

Programme consultation involves a range of stakeholders, who can be grouped as follows.

- Professional/accrediting bodies including New Zealand Institute of Building and, by association, the Australian Institute of Building; New Zealand Institute of Quantity Surveyors (NZIQS); Pacific Association of Quantity Surveyors (PAQS); and the Royal Institution of Chartered Surveyors (RICS).
- Industry groups, employers and local authorities;
- Current BCons students and graduates;
- Māori stakeholders, including practitioners specialising in mātauranga Māori-led design; Māori professionals; and Unitec's Kaihautū and Pou Huritao.

8. SELF-ASSESSMENT, EVALUATION AND REVIEW

This section addresses Programme Approval Criterion 7 by providing information about how the institution assesses the currency and content of the programme; has adequate and effective processes for the on-going 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; and updates the programme accordingly.

It also addresses Accreditation Criterion 4 by presenting processes for the adequate and effective review of programme performance and the institution's capability to support the programme.

8.1 Academic and programme quality management

Unitec's Schools are overseen by a number of major decision-making bodies, including:

- the NZIST Council and its Academic Board;
- the Unitec Board of Directors, Chief Executive and the Leadership Team; and
- the Unitec Academic Committee and its sub-committees.

Unitec's academic committee structure utilises the principle of wakaritenga (legitimacy); academic decision-making processes legitimise others' contributions and ensure that ethics and integrity inform subsequent actions.

The Bachelor of Construction sits within the School of Engineering and Construction, which is led by a Head of School.

The BCons is governed by the Programme Academic Quality Committee (PAQC), which reports to a Quality Alignment Board (QAB) and Unitec's Ako Ahimura Learning and Teaching Committee; these latter groups are established sub-committees of Unitec's Academic Committee.

Together, these committees are responsible for:

- maintaining educational performance;
- supporting continuous improvement in learning, teaching, and research through inter-disciplinary collaboration; and
- student outcomes including success, retention, and academic progress.

8.1.1 Financial and administrative infrastructure

In addition to Academic Quality and Governance, Unitec also provides effective financial infrastructure, administrative systems, and resource management practices to support implementation and sustained delivery of the programme.

8.2 Programme changes

Programme changes and improvements are governed by Unitec Programme Change and Improvement Procedure. Approval for any change is based on:

- stakeholder support for change;
- considerations of the impact on:
  - other programmes;
  - broader Unitec practices; and on
  - Unitec's responsibilities to external agencies.

Institutional support areas such as, Te Puna Ako, Te Korowai Kahurangi, Kaihautū, and other relevant external stakeholders feed into the programme improvements or change process.

8.3 Evaluation and review

All Unitec programmes are subject to ongoing evaluation of individual courses as well as the programme as a whole. Evaluations involve major programme stakeholders: learners, appropriate external professions and organisations, and members of the academic community.

8.3.1 Programme Evaluation

Course Evaluation and Planning (CEP)

Written Course Evaluation and Planning (CEP) reports are completed by individual teachers each semester, to highlight and analyse any issues which occurred and to provide suggestions for improvements as required. They provide Teachers an opportunity to reflect on course outcomes and to plan improvements to their courses and to their own development as teachers.

All teachers who are responsible for courses and outcomes are involved in Course Evaluation and Planning. Evidence is gathered from a wide range of internal and external inputs and evaluated by the Teacher as the course progresses. CEP reports provide Academic Programme Managers with rich information about the component parts (courses) which form part of their programmes.

Programme Evaluation and Planning (PEP)

Annual *Programme Evaluation Plans* (PEPs) are completed to manage and record the evaluative and improvement process. PEPs are structured around six *Key Evaluative Questions*, which emphasise the core activities of performance, evaluation, planning, execution, and review.

Programme plans are assessed as evidence of capability in self-assessment. Evaluations are discussed both locally in the Programme Academic Quality Committee (PAQC) and in various other fora including the QAB, which has responsibility for having a close scrutiny of programmes where the standard of performance is at risk or unacceptable. A single evaluation report is collated for the Academic Board.

Periodically, the institution conducts surveys of learners, graduates, employers, and staff; these provide feedback on specific issues. Findings are reported to the Executive Leadership Team and Academic Board, and tailored presentations are provided to each School. Programme-related findings are evaluated and used to determine improvement actions, which are recorded and tracked through the PEP.

The first PEP for any new Programme is due immediately following the first semester of delivery, and for each semester thereafter. This includes data and information regarding student success, evaluation of the programme, and input from relevant stakeholders, including the Industry Advisory Group.

8.3.2 Degree monitoring

All Unitec degrees and postgraduate programmes are subject to annual, external, independent monitoring. Monitors have credentials and currencies that enable them to relate the needs and expectations of external academic and employer stakeholders to individual, or groups of, degree programmes and their delivery.

Monitoring is aligned with NZQA requirements for monitoring of degree and related qualifications.

Monitoring enables the views and interests of participating stakeholders to be considered; it is also a process for determining the extent to which the needs of all stakeholders are being met.

Individual monitors:

- Are demonstrably independent of Unitec and of programme staff;
- Have current discipline/practice knowledge, strategy/management capability, and proven research/ investigation skills;
- Understand the roles and expectations of the ITP sector; and

- Are familiar with cutting-edge global trends in tertiary education and in business/community development.

Monitors engage with programmes and provide feedback on:

- Implementation of the Unitec strategy in the context of specific programmes;
- Consistency of the programme and its delivery with approved arrangements; and
- Achievement of the quality outcomes specified in the Unitec Academic Statute.

Programme monitoring is carried out annually by a qualified academic from another Institution as approved by Unitec and advised and agreed with NZQA. A schedule of yearly degree monitoring is maintained by Te Korowai Kahurangi, Unitec's Academic Service Centre.

8.3.3 Programme review

All programmes at Unitec are subject to an independent review every three to five years or when directed by the Academic Board. New programmes, including the proposed programme described herein, undergo an initial review following the graduation of the first cohort.

Reviews are designed to be collaborative and aim to:

- identify areas for development;
- identify areas for improvement; and
- ensure the programme maintains relevance for stakeholders.

In doing so, reviews add value to Unitec's on-going stakeholder interactions by fostering new, and strengthening existing, relationships.

Reviews are governed by Unitec's *Academic Evaluation, Review and Improvements Policy*, and focus on two KEQs:

- KEQ2: What is the value of the outcomes for key stakeholders, including learners?
- KEQ3: How well do programmes and activities match the needs of learners and other stakeholders?

Programme review is an important component of the self-assessment, evaluation, and improvement process and recognises that stakeholders are critical to the success of Unitec graduates and programmes.

This Programme is subject to programme review on a cycle designed to meet Unitec's and the NZQA's requirements.

8.4 Audits and reviews by standard-setting bodies

Unitec maintains an effective system for the regular monitoring, evaluation, and review of programmes to ensure that the requirements of standard setting, or professional accreditation bodies continue to be met. The BCons is subject to a number of external moderation and review processes, which are linked to accreditation procedures of the:

- New Zealand Institute of Building and, by association, the Australian Institute of Building;
- New Zealand Institute of Quantity Surveyors;
- Pacific Association of Quantity Surveyors;
- Royal Institution of Chartered Surveyors; and the
- New Zealand Institute of Building Surveyors.

Each year external examiners engage in a complete review of courses in the programme. At least one examiner is required to be an external academic, who is typically chosen from an Australian university; the other is drawn from industry.

An *External Examiners Report* and the Practice Pathway's subsequent response provides the annual accreditation approval mechanism to professional bodies.

In addition, for some specialist Level 7 courses, the programme development team has proposed that benchmarking activities are implemented in partnership with senior academic staff from the University of Newcastle (NSW) and the Queensland University of Technology, which both run comparable programmes of study.

8.5 Student evaluation

Student evaluation is a critical component of learners' coherent educational experience and is a part of Unitec's repertoire of evaluative questioning processes.

Student evaluation aims to naturally integrate evaluation within the context of study so that staff and learners engage in dialogic practices to enhance teaching and learning.

The purpose of student evaluation is to gather feedback on:

- how well a course/programme is meeting learners' learning needs and expectations;
- learners' experiences of courses;
- learners' views on areas of strength;
- learners' views of where improvements can be made;
- learners' assessments of teaching staff and, consequently, teaching staff's professional development needs.

At the start of the course, learners are told which courses will be evaluated; how evaluation will be carried out; evaluation time frames; and reporting back process.

Once evaluation has occurred, student evaluations are analysed, potential response actions are identified, and this data is communicated back to learners within an agreed timeframe. Evaluation results and proposed actions are incorporated in the annual PEP.

8.6 Stakeholder engagement and feedback

Periodically, Unitec conducts surveys of students , graduates, employers, and staff. Providing feedback on specific issues, surveys adopt a "Net Promoter Score" methodology based on the question 'How likely are you to recommend Unitec to your friends and family'.

Findings are reported to the Executive Leadership Team and the Academic Board, and tailored presentations are given to each School. Programme-related findings are evaluated and used to determine improvement actions, which are recorded and tracked through the PEP.

Institutional support for improvement, as well as ideas for programme development, come from a number of institutional services. These services are also stakeholders in that they help ensure institutional commitments are honoured. For example, Te Puna Ako supports the development of teacher practice, Kaihautū support the embedding of matauranga Māori, and Te Korowai Kahurangi provides advice on quality and other process matters.

Programme-specific engagement with external stakeholders will be supported by ensuring learning experiences are embedded in contemporary work-based practice.

8.6.1 Industry Advisory Group

Each School and or major discipline group has an Industry Advisory Group which supports consultation processes. This group, comprised of a number of stakeholder representatives, has a key role in ensuring this programme continues to meet the needs of all stakeholder groups.

This group meets regularly to discuss and provide input into programme development and improvement. Each Industry Advisory Group focusses on the following key tasks:

- ensuring the programmes meet the current and future needs of employers;
- giving a stakeholder perspective on programme developments and reviews;
- providing an opportunity for teaching staff and stakeholders to share best practice and research findings.

The Industry Advisory Group includes a number of key stakeholders; the membership of this group is listed on the table below.

Table 7: Construction Advisory Group

Name	Title/Organisation	Stakeholder Representation
Dylan Huang	Archiland	Industry
Glen Duncan	Group Manager, BCITO	Industry, National Body
Jeff Fahrenson	Manager Inspections, Auckland Council	Local Authority
Nick Farrelly	NZ Council of Builders	Industry, National Body
Alison Stanovich (Chair)	Regional Manager, Dulux Coatings	Industry
Frank Xu	NZ Chinese Building Industry Association	Industry
James Reed	Dominion Construction	Industry
Dave Whitehead	Lifebuilt Construction	Industry
Stuart McClatchy	Clearwater Construction	Industry
Tamati Parker	C3 Construction NZ Institute of Building	Industry, National Body
Staff Members as required	Unitec	Industry Education

9. RESEARCH

9.1 Research Strategy

Research at Unitec refers to a wide variety of activities conducted by both staff and students. This activity involves the:

- generation of new knowledge;
- application of existing knowledge in novel or useful ways; and
- the integration of knowledge through inter-disciplinary work. Research activity may be undertaken as:
- researcher-driven academic research;
- research funded by external stakeholders in the form of grants or projects;
- postgraduate or undergraduate student research projects; and
- other research where the outcome is either quality assured publication, performance or exhibition.

Unitec's research strategy has been developed in the context of the New Zealand Government's *Tertiary Education Strategy*, which places a particular emphasis on partnership with industry and producing research outputs that have greater "relevance…to industry and wider society."2

As outlined in the *Unitec Research and Enterprise Strategy 2015-2020*, the strategy focuses on two main aims, which are informed by six key actions.

9.1.1 Tūāpapa Rangahau / Research and Enterprise Office

Unitec's Tūāpapa Rangahau/Research and Enterprise Office (REO) combines the management and administration of staff and student research at Unitec, under the leadership of the Dean: Research and Enterprise.

The activities of the unit focus on the main areas of:

- commercialisation, technology transfer and the management of intellectual property;
- external grants and funding;
- professional research development;
- research ethics;
- research management and promotion;
- special research events; and
- student research.

9.2 Research policies

See Appendix 1 for link to policies

9.3 Staff research

Staff teaching on this programme conduct research to an appropriate level within their area of experience that advances knowledge and understanding and supports their function as teachers.

The quantity and quality of staff research outputs are monitored, and the collective output is consistent with the development and maintenance of an on-going research culture in support of the programme.

Organisational systems and facilities provide appropriate support to staff involved in research, including access to an appropriate ethics committee. For further information see Unitec Policy and Procedure in the Appendix.

The existing BCons has a strong connection with industry; staff research activities are highly relevant to the programme's teaching and learning activities. In addition to teaching and learning activities, the programme team's 'core business' is focussed on applied research in the following topics:

- architectural technology;
- building surveying and building control;
- construction economics;
- construction management; and
- property development and management.

Although a vocational degree, the BCons is taught by a group of research-active academics and industry professionals. Examples of key research activities include:

- research on key-stone longitudinal team projects (Whole House);
- research from the recently established Virtual Design and Construction Centre (largely BIM);
- collaborative publishing of high-quality quality-assurance work in the areas of:
  - construction;
  - project management;
  - BIM;
  - productivity improvement; and
  - health and safety.
- a BIM/VDC (Virtual Design in Construction) research project led by Taija Puolitaival and Linda Kestle, which seeks to enhance educational outcomes for students by creating a Virtual Construction Project Management Environment concept.

9.4 Student research

The student research components of this programme include…

The school provides appropriate systems and facilities appropriate to the level and scale of the research to enable students to undertake relevant research, including:

- guidance on the development and approval of research projects;
- criteria and procedures for the appointment of appropriately qualified and experienced supervisors;
- a code of conduct for researchers and research supervisors;
- mechanisms for ethical approval of research projects.

Students undertaking research are regularly exposed to industry- and topic-relevant research, research methods, evaluation of research, and associated skills across all three years of study.

During their final year, students engage in formalised research with an assigned supervisor in *CONS7821: Industry Project 1* and *CONS7822: Industry Project 2*.

Some students also have the opportunity to work with teaching staff in co-authoring their research project for publication and/or presentation.

Over the last three years the school has had:

- one PhD completion;
- one PhD submission;
- one Master's' completion; and
- one Master's thesis submission.

Research-teaching links have been made explicit in the curriculum to enable students to make the connection between research and practice. For further information see Unitec Policy and Procedure in the Appendix.

10. APPENDICES

Appendix 1 Link to Policy and Procedure (OneDrive Folder)

Appendix 2 Learning Outcomes mapped to Graduate Profile Outcomes

Appendix 3 Consultation Log

Appendix 4 Course Descriptors

10.1 Appendix 1: Link to Unitec Programme Support Documents

Unitec Policy, Procedure and Strategy documents (Unitec OneDrive Folder)

10.2 Appendix 2: Learning Outcomes Mapped to Graduate Profile Outcomes

Table 8: Learning Outcomes mapped to Graduate Profile Outcomes

Course Code	Course Name	Learning Outcomes	GPO 1	GPO 2	GPO 3	GPO 4	GPO 5	GPO 6	GPO 7		GPO 8 CM	GPO 9 CE	GPO 10 PD
			Effectively use the common body of technical and applied knowledge related to construction management , construction economics and property development across a variety of construction contexts	Apply professional level communication skills in a range of modes across a variety of construction contexts	Function effectively in multi-cultural and cross-disciplinary teams	Manage the requirements and expectations of different stakeholders in the built environment	Apply business systems and processes in their role in alignment with the environmental, legal and economic contexts of construction projects	Apply analytical, practical and research capabilities to industry issues and critically evaluate options	Critically review professional skills and engage in life-long learning and professional development		Apply the specialist knowledge of construction processes, planning and organisation related to construction projects. (Construction Management Major)	Apply the specialist knowledge of cost planning and cost management related to construction projects. (Construction Economics Major)	Apply the specialist knowledge of valuation and management related to property (Property Development Major)
CONS5016	Building Science & Materials	1. Describe the relevant scientific fundamentals of the internal and external built environment. 2. Quantify and interpret the impact of selected parameters on a Built Environment example 3. Discuss the way different materials are used to achieve desired performance criteria	*	*			*	*					
CONS5101	Technology 1	1. Discuss how the construction of buildings is controlled by regulation. 2. Describe construction systems for industrial buildings. 3. Identify how applied forces distribute through a structure	*	*			*	*					
CONS5102	Technology 2	1. Describe construction systems for single dwellings. 2. Describe construction systems for medium density residential dwellings. 3. Examine construction systems that facilitate sustainable dwellings	*	*			*	*					
CONS5103	Technology 3	1. Describe building foundation systems. 2. Examine building structural systems. 3. Discuss temporary and external works	*	*			*	*					
CONS5504	Technical Fundamentals	1. Describe the key systems involved in the creation of buildings 2. Describe simple planning techniques to organise resources on a construction project. 3. Apply quantification techniques used in the industry. 4. Apply basic estimating and pricing techniques used in the industry	*	*			*	*					
CONS5812	Economic Principles	1. Examine economic theory. 2. Discuss economic policy in New Zealand. 3. Analyse the impact of the economy on the property and construction sector	*	*			*	*					
CONS5818	Property & Construction Law	1. Discuss the New Zealand legal system and legal concepts 2. Describe and discuss non-legislative law 3. Describe and discuss the role of Statutory Law. 4. Describe and discuss the principles of Property law 5. Describe and discuss the principles of Contract Law	*	*			*	*					
CONS6008	Building Services	1. Examine the broad significance of building services. 2. Identify and examine the main impacts of building services on construction of buildings 3. Analyse system characteristics	**	**	*	*	**	**	*		**	**	**
CONS6104	Technology 4	1. Compare building envelope systems. 2. Compare building fit-out systems. 3. Explain the role of passive fire systems, fire design, egress and code	**	**	*	*	**	**	*		**	**	**
CONS6201	Measurement & Estimation 1	1. Prepare estimates for the purpose of cost modelling during the design phase of simple buildings. 2. Derive schedules of quantities for simple work packages in accordance with a standard method of measurement.	**	**	*	*	**	**	*			**	

		3. Derive estimates of cost for simple work packages using unit rate techniques											
CONS6202	Measurement & Estimation 2	1. Examine cost modelling processes for moderately complex buildings. 2. Derive schedules of quantities for selected work packages in accordance with a standard method of measurement. 3. Derive estimates of cost for selected work packages using unit rate techniques	**	**	*	*	**	**	*			**	
CONS6401	Planning & Organisation 1	1. Apply planning fundamentals to a simple project 2. Develop a construction methodology report for a simple project 3. Apply scheduling fundamentals to a simple project 4. Identify safety requirements for a simple project	**	**	*	*	**	**	*		**	*	*
CONS6402	Planning & Organisation 2	1. Develop a construction methodology for a moderately complex project 2. Develop a site utilisation plan 3. Develop quality assurance systems and procedures 4. Develop a health and safety management plan 5. Evaluate sustainability issues as they apply to the construction process	**	**	*	*	**	**	*		**		
CONS6811	Tendering	1. Examine the components of a contractor's tender 2. Evaluate tendering risks and related bidding strategy 3. Compile tender submissions 4. Examine the evaluation of tenders from a client representative perspective1,	**	**	*	*	**	**	*			**	
CONS6812	Contract Administration	1. Analyse the roles and responsibilities of parties under standard forms of contract 2. Interpret clauses and develop processes to meet their requirements 3. Compare dispute resolution methods 4. Examine the Impact of Legislation and Common Law on Contractual Rights and Obligations	**	**	*	*	**	**	*		**	**	**
CONS6817	Procurement	1. Differentiate clients and examine their varying objectives in procuring capital works. 2. Compare the aims and objectives of procurement systems. 3. Deduce appropriate procurement strategies for different scenarios	**	**	*	*	**	**	*		**	**	**
CONS6906	Development & Finance	1. Analyse the concept of property development. 2.Derive a project financial feasibility study. 3. Examine funding for projects. 4. Analyse market influences. 5. Evaluate "whole of life" cost benefit techniques	**	**	*	*	**	**	*			**	**
CONS6907	Property Valuation	1. Evaluate property valuation in New Zealand. 2. Evaluate valuation principles, concepts and definitions. 3. Derive the value of residential and commercial property	**	**	*	*	**	**	*				**
CONS7203	Measurement & Estimation 3	1. Examine cost modelling processes for buildings services. 2. Examine cost modelling issues in green buildings. 3. Derive schedules of quantities for selected work packages in accordance with a standard method of measurement. 4. Derive estimates of cost for selected work packages using unit rate techniques	***	***	*	*	***	***	**			***	
CONS7204	Measurement & Estimation 4	1. Analyse issues of risk and reliability in preparing estimates and offering professional advice on building costs. 2. Derive schedules of quantities for complex work packages in accordance with a standard method of measurement. 3. Derive estimates of cost for selected work packages using unit rate and operational estimating techniques.	***	***	*	*	***	***	**			***	
CONS7403	Planning & Organisation 3	1. Examine techniques for monitoring progress and taking corrective action 2. Examine alternative methods of scheduling and monitoring complex projects 3. Evaluate advanced methods of project coordination of complex situations 4. Develop site quality management systems	***	***	**	**	***	***	**		***		
CONS7404	Planning & Organisation 4	1. Evaluate production in a construction context 2. Develop risk management processes for construction 3. Develop Health and Safety Management Systems for Complex Construction Projects 4. Develop a holistic management proposal for a selected project	***	***	**	**	***	***	**		***		
CONS7418	Integrated Design & Construction Management	1. Analyse methods for deriving client needs. 2. Analyse the management of the design process 3. Evaluate the rationale and strategies for integrating design and construction. 4. Evaluate integrated design and construction performance	***	***			***	***	**		***		
CONS7515	People Management	1. Evaluate leadership theories. 2. Evaluate people management theories. 3. Evaluate theories regarding recruitment, retention and performance management. 4. Analyse the impact of NZ employment law on people management practices	***	***	**	**	***	***	**		***		

CONS7817	Urban Economics	1, Examine urban economics theory. 2. Evaluate different urban development markets	***	***	**	**	***	***	**				***
CONS7820	Professional Business Management	1. Derive business strategies. 2. Interpret and analyse company financial reports. 3. Evaluate the ethics of business. 4. Determine appropriate organisation structures and cultures	***	***	**	**	***	***	**				***
CONS7821	Industry Project Part 1	1. Search for, collect and organise information from a wide range of sources into a coherent review of a selected topic. 2. Synthesise selected information to arrive at appropriate conclusions and communicate findings in a formal report.	***	***	**	**	***	***	***		***	***	***
CONS7822	Industry Project Part 2	1. Examine different applied research techniques. 2. Compose and present a formal research proposal. 3. Collect and analyse data and then formulate conclusions and recommendations 4. Communicate research results in a professional manner	***	***	**	**	***	***	***		***	***	***
CONS7905	Property Management	1. Critically examine the management of individual properties. 2. Critically examine the management of Body Corporates 3. Critically examine the management of property portfolios	***	***	**	**	***	***	**				***
CONS7906	Property Development	1. Evaluate opportunities for the commercial development of selected sites. 2. Derive a detailed development proposal for a selected recipient (such as a client, funding agency, local authority). 3. Develop risk management strategies for property developments	***	***	**	**	***	***	**				***
CONS7908	Property Investment	1. Examine the structure of the property investment industry. 2. Critically evaluate techniques for the evaluation of property investments proposals. 3. Critically analyse property investment strategies.	***	***	**	**	***	***	**				***

Key: * = Emerging capabilities, ** = Developing capabilities, *** = Developed capabilities

10.3 Appendix 3: Sample Consultation Log

Table 9: Stakeholder Engagement and Consultation Log for Building Construction Programmes 2019

Stakeholder group: **Alumni and current students**			
Date 2019	***Stakeholders***	***Activities***	***Outcomes***
12 Feb	• James Reed – BCons (CM) graduate	NZIOB appoints James Reed as Young Practitioner Adviser http://www.scoop.co.nz/stories/BU1902/S00237/nziob-appoints-james-reed-as-young-practitioner-adviser.htm	Media exposure for BCons at Unitec *'James is a graduate of Unitec (Bachelor of Construction Management) and has spent his career to date with Dominion Constructors, where he currently holds the role of Project Director. James is well known to the NZIOB, being a member of the Institute and the winner of an Excellence Award in the Young Achiever category at the NZIOB's annual awards programme in 2017.'*
26 Feb	• Charles Roucher, NZDAT	Recent Unitec NZDAT graduate, formed part of the Warren and Mahoney presentation team at event described elsewhere.	Feedback to current students about potential rewards of attaining their NZDAT qualification.
Feb	• Kristian Tamatoa, BCons	BCONS graduate, now Operations Manager for G.J.Gardner Homes	Request for Unitec to devise a training package for firm's Site Supervisors and Project managers
12 April	• Dylan Huang	NDAT and BAS graduate, Managing Director of Archiland, Secretary General of New Zealand Chinese Building Industry Association (NZCBIA). Presentation to School staff.	Archiland is working with Kiwibuild and Chinese prefab manufacturers to produce products and systems that comply with NZ standards and codes.
5 June	• Mirand Yuan, NZDC	Working for Naylor Love (Hamilton) –Positive feedback about performance	Employer participating in survey of employers - louis.dippenaar@naylorlove.co.nz
18 June	• Kurt McRae – Bcons (CE) graduate	From the NZIQS. The trustees of the HH Bunckenburg Memorial Trust are pleased to announce the winners of the 2018 Scholar awards: Kurt McRae – Unitec Penelope Diao-Wu – Massey University	The Scholar awards are for students graduating with a QS degree and have a prize of $1000.
19 June	• Mary Star – top achiever in NZ Diploma in Architectural Technology (NZDAT) 2018	6 Unitec students received NZIOB (New Zealand Institute of Building) Northern Chapter's Student Awards for Excellence. The annual awards recognise not only academic excellence, but the criteria also looks for	Dr Linda Kestle, Associate Professor, School of Building Construction said, "This was a huge achievement for our students, considering most or all are studying part-time whilst also holding down jobs in the industry. Receiving a NZIOB Award is important for our students' profiles and

	• Maokai Huang – top achiever in NZ Diploma of Construction Management (CM) 2018 • David Watson – top achiever in Bachelor of Construction (BCONS) first year across all majors 2018 • Lisa Humphrey – top achiever in BCONS second year CM major 2018 • Maria Zaiat – top achiever in final year BCONS CM major 2018 • Rory Carter – Theo Oettlé Award Finalist and runner up	evidence of teamwork and leadership on a particular course or programme, as expected in the construction industry. Recipients must be tertiary students, studying on a relevant NZ Construction Industry qualification at Certificate, Diploma, Bachelor or Post-Grad level.	future career prospects, as the Awards place an emphasis on skills beyond just academic excellence. "It also gives our students an added advantage in the workplace with many of our employers telling us that they highly rate our graduates as they're work-ready with diverse skills and real-life experience."
24 Jun	• Chris Hooper, NDCM and BCons	BCons Accreditation of Prior Learning process to finalise degree. Presentation to panel.	Successful completion of BCons, first started in 2004.
25 Jun	• Kris Smythe, BCons • Brent Evans, BCons	2018 project with Lecturer Roger Birchmore on embodied energy and carbon in housing. Interactions with BRANZ Principal Scientist David Dowdell.	Unitec student work will contribute to the BRANZ updated *House Insulation Guide* (with embodied carbon) to be published later in 2019
23 Jun	• Melchor Arvin Gutierrez, NZDAT • Yona Al Zheyrey, NZDAT	NZDAT students encouraged to apply for Jasmax Architectural Technician Internship	Chosen to participate in the Jasmax Architectural Technician Internship commencing 01 July 2019.
Sep	• Megan Smith BCons graduate 2014	Nominated for RICS Young Surveyor of the Year Award in the UK	Graduate working for noted firm of Gardiner and Theobald, London
Sep	• Olivia Pearson BCons (CM) graduate 2008	Finalist for the Property Council New Zealand's Resene Women in Property Award	Also has been a visiting lecturer for Kath Davies on the *Integrated Design and Construction Management* course.
Sep	• Damien Fletcher BCons (CM) graduate 2017	Wide experience in international construction project management including the Jeddah Tower	*Planning and Organisation 4* course with David Nummy uses an island resort project led by Damon. Damon contributes to course by a Skype link.
Sep	• Mathew Yanez, BCons (CE) graduate 2012	Working for Cooke& Dowsett in Australia	Elected the President of the Victoria Chapter of AHSCA (Association of Hydraulic Services Consultants Australia).
Sep	• Bruce Rogers, BCons (CM) graduate	At NZIOB National AGM - Bruce Rogers a past graduate and Northern Chapter Institute's Councillor.	Councillor was recognised by the outgoing Council, who awarded him the 2019 NZIOB Medal, the Institute's highest honour.

3 Oct	• 5 NZDAT graduates working at Warren and Mahoney Architects	Firm hosted an Open Studio event for 30 Arch Technology students from Unitec. 5 graduates from Unitec NZDAT presented projects and mentored current students. Organised by Architectural Technology Lecturer Malachy McGarrigle	Continuing strengthened relationships with the Firm Firm keen to employ more Unitec graudates Article about event published on Unitec Intranet
6 Nov	• Raluca Caseanu – Bcons graduate 2007	Auckland Quantity Surveyor Manager at Fletcher Construction Company	In contact with staff member Geoff Parish via Linkedin.
8 Nov	• Nakul Patel ND Cons graduate	Construction Management with NZ Commercial Site Experience, Auckland, New Zealand	In contact with staff member Geoff Parish via Linkedin.
Nov	• Kirk Bakker, BCons (CM) graduate	Finalist in the NZIOB annual awards	Featured in Institute news sheet to members
Nov	• Joel Cox, BCons (CM) graduate	Finalist in the NZIOB annual awards	Featured in Institute news sheet to members
Dec	• Vivianne Rutledge, NDQS grad, c2010	Experienced Quantity Surveyor. Strong operations professional with a National Diploma Quantity Surveyor focused in QS from Unitec Institute of Technology.	In contact with staff member Geoff Parish via Linkedin

Stakeholder group: **Industry companies and groups**			
Date	***Stakeholders***	***Activities***	***Outcomes***
Feb	• Hawkins Construction	Delivery of Hawkins *Project Excellence* training programme continues at Unitec	The Partnership of Unitec and Hawkins for the *Project Excellence* training programme has been highlighted in the trade press such as NZ Construction News: Hawkins executive general manager Gary Walker says the partnership is about encouraging collaboration within the construction industry and with Unitec.
12 Feb	• Dominion Constructors	NZIOB appoints employee James Reed as Young Practitioner Adviser	Continued link-building with Dominion Constructors
21 Feb	• Jasmax	Email approach from Maeve Devaney, Recruitment Specialist at Jasmax to Unitec via lecturer Malachy McGarrigle	Relationship-building with a leading NZ Design Group. 'Liam and I are passionate about building on the Jasmax/Unitec relationship further and look forward to working with you more in the coming months!'

26 Feb	• Jasmax • Warren & Mahoney	The leading design firms visited Unitec to present to students on the NZ Diploma in Architectural Technology. Charles Roucher, a recent Unitec graduate, formed part of the Warren and Mahoney presentation team, giving our current students a great opportunity to see the potential rewards of attaining their NZDAT qualification.	Disseminated as news item: 'Lecturer in Architectural Technology, Malachy McGarrigle said it was heartening to hear how impressed each firm's representative was with the standard of Unitec students they have employed, and that they want to continue to nurture and reinforce their links with us. Student feedback on the presentations was very positive, with students saying they appreciated the guidance offered to them by both firms in terms of how to successfully further their Architectural technology careers.'
Feb	• G.J.Gardner Homes	Lecturer Chris Carson contacted by Kristian Tamatoa, a BCONS graduate, now Operations Manager for G.J.Gardner Homes	Request for Unitec to devise a training package for firm's Site Supervisors and Project managers who are largely informally trained. To set up a meeting to discuss requirements and timing.
Feb	• NZ Chinese Building Industry Association	Talks with President Frank Xu about cooperation and providing training	Frank Xu invited to be member of Unitec Advisory Committee. Staff member Luban Chan to plan short course delivery to Association members.
14 Mar	• Unitec Building and Construction Advisory Committee meeting. Present: Frank Xu, Glenn Duncan, Stuart McClatchy, Geoff Kindred, Jeff Fahrensohn, Lee Baglow. Leni Fifita, Colin O'Gorman, Paul Jeurissen, Alison Stankovich, Trudy Vinkenvleugel (Minute Taker) In Attendance: Heather Stonyer Merran Davis, David Glover	Agenda: Merran Davis (Acting CE) outlined proposed Reform of Vocational Education (RoVE) Health and Safety Reports Industry Reports Other business arising	Kōrero centred around challenges and issues identified in reports. Committee agreed to maintain the current frequency and format of the advisory committee meetings.
14 Mar	• Jasmax meeting at Unitec	Attendees: Malachy (Unitec), Maeve Devaney & Ana Djokovic (Jasmax) Objective: To develop a continuous relationship with UNITEC in terms of the Architectural Technology Diploma (the School of Architecture is a separate agreement and a separate school) Agreement:	Benefits for the student: - Students get a chance to gain some industry experience and get insight into the workforce in this position. - Students will develop relationships and expand their professional network - May lead to participation in the graduate programme upon completing their diploma.

		• JASMAX will hold an internship programme with the 2nd year students • The internship would commence on the 1st of July and end on the 19th of July • Those who intern will receive feedback and a chance to give us feedback also.	Benefits for UNITEC - Enhance the Diploma experience - Create a point of differentiation from other providers - Facilitate students to gain employment Benefits for Jasmax: - Finding great graduates to be a part of our team, who need support of technicians. - Helping the industry
27 Mar	• Bentley - Infrastructure	Presentation to staff by Kuthur Siram, Senior Account Manager, Asia-Pacific of Bentley. Subject: *ContextCapture* - Bentley's 3D Modelling software - one of the tools available for creating a Digital Twin.	PD of staff about Digital Twins. A new proptech concept which is a digital version of a physical asset, created by sensors (or by the "internet of things"). In the building world, cameras and laser scanners are used to "see" every part of a building and create a digital version of it.
12 April	• New Zealand Chinese Building Industry Association (NZCBIA)	Managing Director of Archiland, Secretary General of New Zealand Chinese Building Industry Association (NZCBIA). Presentation to School staff.	Archland is working with Kiwibuild and Chinese prefab manufactures to produce products and systems that comply with NZ standards and codes.
16 May	• Warren and Mahoney Architects	Meeting of Unitec design staff at W & M offices. Overall aim to widen and strengthen relationship with Unitec.	W&M will assist with: - Evaluation of assignments - Site visits - Guest speakers and presentations - Sponsorship of prizes
24 May	• Compliance Audit Systems Limited (CAS),	Presentation to staff by Dr Johannes Dimyadi, the founder and CEO of CAS, a platform compliance company providing innovative and practical solutions.	Professional Development of staff automating the compliance audit processes, particularly in the architectural, engineering, construction, and facilities management (AEC/FM) industry
5 June	• Naylor Love (Hamilton)	Positive feedback about performance	Employer participating in survey of employers - louis.dippenaar@naylorlove.co.nz
4 June	• Warren and Mahoney Architects	Presentation by Matt McGrice of WAM	Presentation to NZDAT students and staff
4 June	• Bull O'Sullivan Architecture	Presentation by Michael O'Sullivan (Bull O'Sullivan architecture)	Presentation to NZDAT students and staff
14 June	• Trent Fearnley – National Advisor Fire Risk Management, Director,	Industry speaker at SOBC Staff Meeting	Discussions around programmes to serve the industry including Certificate of Fire Technology; Competenz L-3-4

	Institution of Fire Engineers International, Fire and Emergency NZ	Raising awareness of the Fire Industry – 300 vacant jobs – and its needs.	Courses; Masters/BEng; Block courses; apprenticeship model; Micro Credential of Fire
14 June	• Auckland Council • Fletcher Building	Collaboration project coordinated by staff member Sadegh Aliakbarlou	Improvement of design-stage elemental cost planning accuracy for Capital Projects in post-disaster reconstruction situations.
24 Jun	• Savory Construction	Chris Hooper, NDCM and BCons BCons Accreditation of Prior Learning process to finalise degree. Presentation to panel.	Information and discussions with staff members about: costing of construction projects in the Auckland context; demise of Fletcher building.
24 Jun	• Patterson Associates Architects	Contact with significant firm initiated by lecturer Mal McGarrigle with offer to explain profile of NZDAT graduates and what they can bring to firms.	Successful and enthusiastic invitation to visit head office in Parnell and engage with members of the recruitment and leadership teams
25 Jun	• BRANZ	BCons students Kris Smythe and Brent Evans 2018 project with Lecturer Roger Birchmore on embodied energy and carbon in housing. Interactions with BRANZ Principal Scientist David Dowdell.	Unitec student work will contribute to the BRANZ updated *House Insulation Guide* (with embodied carbon) to be published later in 2019
23 Jun	• Jasmax	Links with Jasmax built by Lecturer Mal McG arranged Architectural Technician Internships for Unitec students	2 NZDAT students chosen to participate in the Jasmax Architectural Technician Internship commencing 01 July 2019.
22 Jul	• New Zealand Chinese Building Industry Association (NZCBIA)	Review and Judging of 2019 Excellence Awards attended by Head of School Paul Jeurissen	Strengthening of links between Unitec and the NZCBIA
Aug	• Fairway Bay, Gulf Harbour	Sean Pan – Director and CEO meeting with Head of School Paul Jeurissen at NZBCIA	Potential involvement of firm in Unitec activities including staff development, assessment activities, student work and opportunities.
Aug	• Kingstons, Quantity Surveyors and Construction Cost Consultants	Mike Casey, Director - meeting with Head of School Paul Jeurissen at NZBCIA	Potential involvement of firm in Unitec activities including staff development, assessment activities, student work and opportunities.
Aug	• Beca	Mike Quirk, Business Director - meeting with Head of School Paul Jeurissen at NZBCIA	Potential involvement of firm in Unitec activities. To give presentation to staff about the use by BECA of Virtual Reality for training in health and safety.

Aug	• Woodhams Meikle Zhon NZ Ltd	Feng Zhan, Exec Director - meeting with Head of School Paul Jeurissen at NZBCIA	Potential involvement of firm in Unitec activities including staff development, assessment activities, student work and opportunities.
13 Aug	• ADNZ Architectural Designers NZ	Regenerative Architecture seminars presented by Jerome Partington & Bob Burnett	Unitec students attending at special rate of $15.00 per student
14 Aug	• Construction Connect Event	Unitec event with stands in Bldg 180 for students to meet representative from 18 Construction firms	Opportunities for students – • Meet future employers and build professional networks • Get first hand information on current and future employment vacancies • Learn about the skills that will give you a competitive edge in the career you are heading to • Gain expert advice from companies. (also see following entry)
15 Aug	• Holmes Consulting	Email from Tony Fitzwater, Drafting Leader to Lecturers K Pati and A Clarke.	Follow up from Connect Event. Offering a presentation to final year students of the NZDAT with a focus on structural drafting.
16 Aug	• NZ Chinese Building Industry Association	Gala Dinner, Awards and Scholarship presentations. Keynote addresses my Minister for Building, Mayor of Auckland and others.	Unitec table of 10 for staff members and Unitec scholarship recipients Tim Lin and Viet Huu Tran.
16-18 Aug	• 2019 NZIBES • NZ International Building Expo & Summit	One of biggest property and building event in New Zealand. The event attracts and involves top property and building industry leaders to exchange, discuss, and debate industry issues, ideas, trends and opportunities. Vodafone Centre - Manakau	Unitec staff and students given opportunity to attend the Summit talks. And attend the exhibition
23 Aug	• NZIOB	NZ Building Industry Awards Ceremony and Dinner 10 Staff members attending.	Professional development and networking
27 Aug	• Housing New Zealand	Stephen Choy, Principal Manager, Building Consent Authority, Auckland, Housing NZ	Housing NZ contacted Head of School Paul Jeurissen. Discussions regarding training of building inspectors Taken forward within Unitec and discussions to continue
21 Sep	• Downer	Hackathon for students at their Stanley Street office on Saturday September 21 from 8.30am -	Unitec invited to send students from a range of disciplines. Posted to student forum with Facebook links.

		5.30pm. This is something that Downer has run in partnership with the Sustainable Future Collective for a couple of years now.	
30 Sep	• Link Alliance – City Rail Link	Brice Gaudin – Alliance BIM Manager Made contact offering positions for graduates with BIM experience.	Liaison furthered by R McMullan Brice Is keen to give presentation to construction and civil engineering students in 2020
1 Oct	• JFC Ltd	Jonathan Pulman, recruiting for construction project management and QS students.	Contacted by HoS Paul Jeurissen – about joining next years Employment Fair. Meanwhile Sadegh in contact about possible lecturing support.
2 Oct	• Kainga Ora	Meeting between Kainga Ora and Unitec Anna McCrossen: National Building Consent Authority Manager Jeremy Neven, BCA inspections Manager Stephen Choy, Programme Manager Unitec: David Glover, Exec Dir Partnerships Paul Jeurissen, Head of School Building Construction Heather Stonyer, Director Industry Partnerships	Unitec will offer New Zealand Diploma in Building Surveying (Level 6) in collaboration with the establishment of Kainga Ora Building Consent Authority.
3 Oct	• Warren and Mahoney Architects	Firm hosted an Open Studio event for 30 Arch Technology students from Unitec. 5 graduates from Unitec NZDAT presented projects and mentored current students. Organised by Architectural Technology Lecturer Malachy McGarrigle	Continuing strengthened relationships with the Firm Firm keen to employ more Unitec graudates Article about event published on Unitec Intranet
11 Oct	• Beca	11 Members of staff visited Beca HQ Auckland. Organised following link made between Mike Quirk Business Director and PJ Head of School	Staff where given overviews and demonstrations of – Beacon Software System, BIM space and application, Industrial flow software model, Assess management software, Virtual Reality model of Health and Safety. Plus Beca insights about future needs of the industry .
8 Nov	• D & H Steel Construction	8 Staff members visited design and structural fabrication HQ in Henderson. D&H Steel have been producing BIM models for more than 15 years and leverage the model data to all facets of	Organised through Stuart McClatchy Clearwater Construction. Half the current BIM team of 10 are Unitec graduates.

		the business from shop drawings through to ordering, parts production, QA and delivery documentation.	Agreed to make a specialist visit in the new year to identify and incorporate D&H/Industry BIM needs into curriculum revisions.
4 Dec	• Awards event	tba	

Stakeholder group: **Employment offers - Recruitment**			
Date	***Stakeholders***	***Activities***	***Outcomes***
20 Feb	• Urban Design Group	Job offer - Architectural Technician	Posted to student forum on Moodle. Feedback from Unitec student confirmed in role
25 Feb	• McNaughton Windows and Doors	Job offer - Sales Estimator	Posted to student forum on Moodle
7 Feb	• Datum Projects Limited	Job Offer - Project Coordinator	Posted to student forum on Moodle
8 Mar	• Auckland Council	Graduate Programme Recruitment – Presentation at Unitec on 8 March	Posted to student forum on Moodle. Presentation at Unitec
12Mar	• R F Masonry	Job offer – PT Junior QS	Posted to student forum on Moodle
21 Mar	• Assemble - technical documentation and services firm	Job offers – Architectural and Structural technicians – invited to send in CV	Posted to student forum on Moodle
25 Mar	• Navigation Homes Counties	Job offer – FT position for recent QS, Estimator graduate	Posted to student forum on Moodle
29 Mar	• Fletcher Living North	Position - cadet construction supervisor, to help with the coordination of house builds. Suitable for a student in their final year of the Construction Diploma or the Degree and doing Construction Management	Discussed with Graham Harris at Fletcher Living North. Posted to student forum on Moodle
8 April	• Passive Fire NZ	Position – QS student. PT leading to FT	Posted to student forum on Moodle
8 April	• United Steel Ltd	Position – QS student. PT leading to FT	Posted to student forum on Moodle
23 May	• Home Design	Position – Junior architecture draftperson	Posted to student forum on Moodle
27 May	• NZ Strong	Position – Building Services Intern. Suit final year BCons student PT	Discussed with firm and posted on Moodle
5 Jun	• Auckland Building Specialists Ltd	Part or full time training QS position	Posted on Unitec site and student forum on Moodle
17 Jun	• DPA	A practice based in Devonport on the North shore is seeking to employ an architectural technologist.	Posted to student forum on Moodle by Mal McG

17 Jun	• Lewis Build	Looking for a part-time Quantity Surveyor, which could lead into full time work for the right candidate.	Posted to student forum on Moodle by Kamuka P
19 Jun	• Cato Bolam, Architects	Post for graduate architect or arch technician	Posted to student forum on Moodle by Mal McG
1 Aug	• Jasmax	Lecturer Mal McG acted as referee for NZDAT student Bruce May	Student offered and accepted position at Jasmax.
14 Aug	• Construction Connect Event	Unitec event for students to meet 18 Construction firms at stands in Bldg 180	Opportunities for students – • Meet future employers and build professional networks • Get first hand information on current and future employment vacancies • Learn about the skills that will give you a competitive edge in the career you are heading to • Gain expert advice from companies
21 Aug	• NZ Strong	Position – Health and Safety Intern. Suit NZDC or BCons student.	Discussed with firm and posted on Moodle. They offered to feedback if any Unitec student successful.
26 Aug	• Brosnan Construction	Position – Project Administrator - We are looking for a first-year student who is studying Quantity Surveying and can work at least 4 days per week.	Posted to student forum on Moodle by Kamuka Pati
30 Aug	• Wallace Construction	Cadet QS Position – Part Time / Full Time	Posted to student forum on Moodle by Kamuka Pati
30 Aug	• Superior Painters	Position – junior Quantity Surveyor for small painting company. Current focus is residential.	Posted to student forum on Moodle by Kamuka Pati
6 Sep	• TLC Modular	Position - Macnus Sim, NZ QS Manager & Senior Estimator from TLC Modular Auckland is wanting to recruit a Unitec student as junior QS for their company.	Posted to student forum on Moodle by Ute Becker 6 Oct Employer thanked Unitec - post was offered to 2 Unitec students
26 Sep	• AWF	Position – Project Administrator Company specialising in the manufacture of supply and installation of architectural products for commercial construction nation-wide	Posted to student forum on Moodle by Melinda Chuo
30 Sep	• Link Alliance – City Rail Link	Positions – placements or FT - For Construction graduates with BIM experience.	Posted to student forum on Moodle by Randall McMullan. Positive contact with BIM manager about giving a presentation to students

25 Oct	• Brosnan Construction	Position – Health and Safety Administrator – to assist the Group HSE manager	On Unitec Careers site and posted to Construction student Moodle site by Kamuka Pati
25 Oct	• Assemble Architects	Positions – Architectural Technicians starting Dec. Assemble has already employed three Unitec AT graduates in the past and the practice has good industrial links with Unitec, often supplying guest lecturers and advising on course content and qualifications.	Posted to Student Moodle Forum my Mal McGarrigle. Advert from Shaun Sexton with support of Mal.
29 Oct	• Warren and Mahoney	Positions – Architectural Technical Graduates	Posted to Student Moodle Forum my Mal McGarrigle. Advert from Amanda Mirams with support of Mal.
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Stakeholder group: **Professional associations**			
Date	***Stakeholders***	***Activities***	***Outcomes***
12 Feb 2019	• NZ Institute of Building NZIOB	NZIOB appoints Unitec graduate James Reed as Young Practitioner Adviser.	Strengthened relationship with professional body http://www.scoop.co.nz/stories/BU1902/S00237/nziob-appoints-james-reed-as-young-practitioner-adviser.htm
21, 22 Mar 2019	• NZIQS	**National Moderation meeting** 2 days at SIT, Invercargill for the NZ Dip in Construction (QS Strand)	Strengthened QS staff links to professional body
25 Mar	• NZIQS • RICS • PQAS	Continuing dialogue with Marilyn Moffat, Executive Director NZIQS, about coordinating accreditation visits with RICS Oceania and PAQS	Potential reduction of wasteful and costly duplicate visits by professional bodies.
	• CIOB Chartered Institute of Building	Unitec Lecturer Luban Chan elected to status of Chartered Construction Manager	Increased range of staff professional affiliations
	• RICS	Tba	
12 March	• CIBSE	CIBSE sponsors awards for students at Unitec Institute of Technology and Auckland University of Technology who are studying Building Services courses. The awards for the Best Performing Student studying Building Services, part of the Unitec Bachelor of Construction, was presented	Lauren was also invited to attend the Auckland technical seminar in February where she networked with committee members, CIBSE Young Engineers Network representatives and other delegates. On the night she was also encouraged by the committee to submit an entry for the 2019 CIBSE ANZ Young Engineers Awards.

		to Lauren Wilson by CIBSE Auckland Chair, Mark Crawford.	https://www.cibse.org/news-and-policy/march-2019/cibse-nz-helping-students-to-shine?utm_source=marketingcloud&utm_medium=email&utm_campaign=ANZ+Newsletter+-+March+2019&utm_term=0032000001nADQFAA4
May	• NZIOB	6 Unitec students received NZIOB (New Zealand Institute of Building) Northern Chapter's Student Awards for Excellence.	Dr Linda Kestle, Associate Professor, School of Building Construction said, "This was a huge achievement for our students, considering most or all are studying part-time whilst also holding down jobs in the industry…"
23 June	• NZIOB	NZ Building Industry Awards Ceremony and Dinner 10 Staff members attending.	Professional development and networking
13 Aug	• ADNZ Architectural Designers NZ	Regenerative Architecture seminars presented by Jerome Partington & Bob Burnett	Unitec students attending at special rate of $15.00 per student.
13 Aug	• ADNZ Architectural Designers NZ	A survey to gauge how best adnz can add value to the student learning experience and set up membership schemes of real benefit to learners.	Unitec NZDAT encouraged to participate via Moodle site. Posted by lecturer Mal M.
Sep	• Megan Smith BCons graduate 2014	Nominated for RICS Young Surveyor of the Year Award in the UK	Graduate working for noted firm of Gardiner and Theobald, London
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Stakeholder group: **ITPs, schools and educational partners**			
Date	***Stakeholders***	***Activities***	***Outcomes***
21, 22 Mar	• Unitec NZDC (QS) staff • Other ITPs • BCITO • NZIQS	**National Moderation meeting** 2 days at SIT, Invercargill for the NZ Dip in Construction (QS Strand) Cluster moderation of courses	Staff development National consistency
19 Mar	• ITP Trades Leaders' Forum	Meeting at Weltec attended by Paul Jeurissen, Head of Unitec SoBC NZCB – update on ITAB	Agreed focus areas for 2019 – - Review of Vocational Education RoVE - Consistency reviews - Collaboration across ITPs
6,7 May	• PAQS • NZIQS	BCons (CE) Accreditation visit by Pacific Association of Quantity Surveyors panel	Reaccreditation for 5 years with no requirements.

		representing constituent associations. Meetings with staff and students.	Some recommendations regarding international dimensions of QS curriculum content.
15 May	• Unitec staff – Kamuka Pati • Other ITPs • BCITO	National consistency review for NZCCM [New Zealand Certificate in Construction Related Trades (Main Contract Supervision) (Level 5)]	
10 June	• Ara Institute	BCons Degree Monitor visit by Kam Cheng Programme Manager – Ara institute	Focuses included – Internal and external moderation – Graduate and Employer feedback with strong evidence of this linking to the GPO's.
12/13 June	• Unitec staff • Southland Institute of Technology • NZQA panellists	HoS Paul Jeurissen on NZQA-appointed panel to assess application by SIT to offer a Bachelor in Construction.	Accreditation decision pending
23 June	• NZIOB	NZ Building Industry Awards Ceremony and Dinner 10 Staff members attending.	Professional development and networking
Dec	• Ara Institute • Otago Poly • SIT	National BCons Cluster Moderation Unitec staff attending event in Christchurch	National consistency of BCons delivery National planning of BCons development Individual staff development

Stakeholder group: **Professional development, conferences**			
Date	***Stakeholders***	***Activities***	***Outcomes***
1 Mar	• Branz • Industry professionals	Branz Conference attended by staff member M McGarrigle	Professional development shared with colleagues
12 April	• Dylan Huang	Industry speaker at SOBC staff meeting. NDAT and BAS graduate, Managing Director of Archiland, Secretary General of New Zealand Chinese Building Industry Association (NZCBIA).	Staff professional Development The presentation highlighted to the barriers and challenges faced by the industry when trying to introduce alternative construction techniques and materials into New Zealand. It also outlined opportunities for students in the industry and provided an overview and case study of two different types and areas of prefabrication the company has introduced into the New Zealand market. The presentation reinforced to the staff not only the risk and challenges faced by Dylan and his company but also

			highlighted the courage and resilience required to succeed in a competitive and demanding sector.
14 June	• Trent Fearnley – National Advisor Fire Risk Management, Director, Institution of Fire Engineers International, Fire and Emergency NZ	Industry speaker at SOBC Staff Meeting Raising awareness of the Fire Industry – 300 vacant jobs – and its needs.	Discussions around programmes to serve the industry including Certificate of Fire Technology; Competenz L-3-4 Courses; Masters/BEng; Block courses; apprenticeship model; Micro Credential of Fire
21 June	• NZIA conference webinar	Industry presentation to SOBC Staff meeting. Topics covered included three separate presentations on the following: Seismic Restraint; Update on the latest Fire Safety standards and systems; BIM used in prefabrication (Grant Douglas Makers)	Staff were exposed to technical information related to the areas covered from a design and implementation perspective.
11 Oct	• Beca –visit to HQ	11 Members of staff visited Beca HQ Auckland. Organised following link made between Mike Quirk Business Director and PJ Head of School	Staff where given overviews and demonstrations of – Beacon Software System, BIM space and application, Industrial flow software model, Assess management software, Virtual Reality model of Health and Safety. Plus Beca insights about future needs of the industry
5 Nov	• Australasian University Building Educators Association (AUBEA)	School of Engineering and Technology at CQ University, in Noosa QLD. Attended by staff members Prof Linda Kestle, Neil Laing to support submitted papers.	Staff development – individual and cascaded to colleagues. Unitec reputational
8 Nov	• D & H Steel Construction	Staff members visit to design and structural fabrication HQ in Henderson. D&H Steel have been producing BIM models for more than 15 years and leverage the model data to all facets of the business from shop drawings through to ordering, parts production, QA and delivery documentation.	Organised through Stuart McClatchy Clearwater Construction. Half the current BIM team of 10 are Unitec graduates. Agreed to make a specialist visit in the new year to identify and incorporate D&H/Industry BIM needs into curriculum revisions.

Stakeholder group: **Māori and Pacific stakeholders**			
Date	***Stakeholders***	***Activities***	***Outcomes***

20 Feb	• Unitec whānau	Powhiri for new students at the wharenui followed by kai at the wharekai	Building relationships and introduction to Tikanga Māori
Feb	• Kristian Tamatoa	Lecturer Chris Carson contacted by Kristian Tamatoa, a BCONS graduate, now Operations Manager for G.J.Gardner Homes	Request for Unitec to devise a training package for firm's Site Supervisors and Project managers
10 Sep	• Pacific Island Presbyterian Church Group	Presentation by NZDip Arch Tech student teams to a church group of c 50. Centred on schemes for redevelopment of church land in Newton Gulley	Links developed with many new Pacific families. Tutors: Polisi Faumuina, Steve Hutana, Tina Martin
2 Oct	• Whanau Fanau Evening	Māori Whanau & Pacific Fanau Evening Presentations by Unitec staff. Buffet meal and networking. For all students and a family member	28 students plus some family members. Over 100 views of live feed on Pacific FB page. Feedback captured on a Q'airre Increased awareness of Unitec support services available.

10.4 Appendix 4: Course descriptors

CONS 5016:	Building Science and Materials				
Course number:	CONS 5016	**Level:**	5	**Credits:**	15
Main programme:	Bachelor of Construction			Compulsory	
Pathway(s):					
Requisites / Restrictions:					
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to understand the basic physical principles of the Built Environment and their relation to buildings materials performance and selection.

Learning Outcomes:

1. **Describe the relevant scientific fundamentals of the internal and external built environment.**
   - Selection of relevant parameters to analyse human comfort and performance.
   - Thequantification of relevant units.
   - The impact of relevant parameters on building design.
2. **Quantify and interpret the impact of selected parameters on a Built Environment example**
   - Design data and their limits of application.
   - Interpreting and drawing conclusions from results
3. **Discuss the way different materials are used to achieve desired performance criteria.**
   - Factors that influence a materials selection.
   - Quantification of properties of building materials.

Learning and Teaching:

Learning workshops will be either half day twice a week or one day once a week for seven weeks. Activities in workshops will generally be student centred and problem solving in nature often involving group work and student presentations etc. Activities may also include presentations by staff and guest speakers, visits to sites etc. Self-directed work will build on workshop activities and generally have assessment embedded in it. Learning will be supported by appropriate resources accessed through Moodle.

Topics:

Scientific fundamentals: Heat, heat flow, thermal performance, moisture; light, luminance, illuminance; colour, luminaries; Sound, noise and acoustic performance; Electricity and energy; Ventilation and contaminants.

Materials: Properties; Performance; Corrosion; Selection criteria (e.g. environmental impact, strength, durability, cost, availability)

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	15 Oct 2013	January 2014		

2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS 5101: Technology 1

Course number:	CONS 5101	**Level:**	5	**Credits:**	15
Main programme:	Bachelor of Construction			Compulsory	
Pathway(s):					
Requisites / Restrictions:					
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to understand construction systems suitable for simple industrial building construction within New Zealand.

Learning Outcomes:

1. **Discuss how the construction of buildings is controlled by regulation.**
   - Requirements of New Zealand Building Code.
   - The approval process and the role of players involved in obtaining building consent.
2. **Describe construction systems for industrial buildings.**
   - Foundation systems.
   - Structural frame systems.
   - External envelope systems
   - Internal sub-division and fit out systems.
   - Basic services.
3. **Identify how applied forces distribute through a structure**
   - Forces in structural members.
   - The effect of stress and strain on the selection of structural members.
   - How buildings accommodate wind and seismic forces.

Learning and Teaching:

Learning workshops will be either half day twice a week or one day once a week for seven weeks. Activities in workshops will generally be student centred and problem solving in nature often involving group work and student presentations etc. Activities may also include presentations by staff and guest speakers, visits to sites etc. Self-directed work will build on workshop activities and generally have assessment embedded in it. Learning will be supported by appropriate resources accessed through Moodle.

Topics:

Development of regulatory framework: Building Act; Building Code; Consents process; Compliance;
Licensed Building Practitioners scheme; Introduction to the Building Act/Code/Consents/Compliance;
Site Conditions; Proprietary and non-proprietary systems: Construction Systems (foundations, floors, walls, roofs) for Building elements and components(e.g. floors, roofs, windows, doors) for simple industrial buildings; Building Envelope (claddings, coverings, fixings and flashings). Storm water drainage, Cold water supply; Mechanics: Graphical solutions of statically determinate truss frames; 3 equations of static equilibrium; Young's modulus, elasticity, Hook's law.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*

	15 Oct 2013	**January 2014**		

CONS 5102: Technology 2

Course number:	CONS 5102	**Level:**	5	**Credits:**	15
Main programme:	Bachelor of Construction			Compulsory	
Pathway(s):					
Requisites / Restrictions:					
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to understand construction systems suitable for low and medium density residential construction within New Zealand.

Learning Outcomes:

1. **Describe construction systems for single dwellings.**
   - Systems for the elements of residential buildings
   - The application of New Zealand Standard NZS3604 to residential systems.
2. **Describe construction systems for medium density residential dwellings.**
   - The increased complexity of such buildings
   - Systems used at the interface between adjoining dwellings.
3. **Examine construction systems that facilitate sustainable dwellings.**
   - Sources of energy consumption in dwellings
   - Systems that reduce energy consumption

Learning and Teaching:

Learning workshops will be either half day twice a week or one day once a week for seven weeks. Activities in workshops will generally be student centred and problem solving in nature often involving group work and student presentations etc. Activities may also include presentations by staff and guest speakers, visits to sites etc. Self-directed work will build on workshop activities and generally have assessment embedded in it. Learning will be supported by appropriate resources accessed through Moodle.

Topics:

Building Code requirements; Site Conditions; Proprietary and non-proprietary systems: NZS 3604 Construction Systems (foundations, floors, walls, roofs) for domestic scale projects;

Building elements and components (e.g. floors, roofs, windows, doors) for domestic scale projects; Building Envelope (claddings, coverings, fixings and flashings);

Anthropometrics: Access for the disabled; Domestic Hot Water, Ventilation, Sanitary plumbing, Residential energy consumption, passive alternatives.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
	15 Oct 2013	January 2014		

2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS 5103: Technology 3

Course number:	CONS 5103	**Level:**	5	**Credits:**	15
Main programme:	Bachelor of Construction			Compulsory	
Pathway(s):					
Requisites / Restrictions:					
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to explore foundations and structural systems in multi-storey construction.

Learning Outcomes:

1. **Describe building foundation systems.**
   - Performance requirements
   - The construction and performance characteristics of alternative systems
2. **Examine building structural systems.**
   - Performance requirements
   - Performance characteristics system components (columns, beams, walls, diaphragms etc).
   - The construction and performance characteristics of alternative systems, insitu concrete, prefabricated concrete, steel etc)
3. **Discusstemporary and external works.**
   - Excavation procedures.
   - Temporary works for access during construction.
   - Temporary structures for supporting works during construction.
   - External works

Learning and Teaching:

Learning workshops will be either half day twice a week or one day once a week for seven weeks. Activities in workshops will generally be student centred and problem solving in nature often involving group work and student presentations etc. Activities may also include presentations by staff and guest speakers, visits to sites etc. Self-directed work will build on workshop activities and generally have assessment embedded in it. Learning will be supported by appropriate resources accessed through Moodle.

Topics:

Multi storey residential and commercial buildings methods and characteristics of commercial scale construction: Complexity and typical form; Horizontal and vertical access in buildings, ducts, shafts, voids, penetrations.Temporary and external works: Temporary structures (Formwork, scaffold, shoring); Excavation; Roads and landscaping; Reconstituted ground, difference between cut & fill, landfill, reclaimed etc.; Civil works – roads, bridges; Retaining walls.Design concepts: Types of loads (live, dead, wind, earthquake); Ductility and capacity; Serviceability.Components, performance and construction of structural systems: Soils and foundations and retaining walls; Foundation construction; Pads and piers and strip systems; Slab and raft systems; Piling systems; Stabilising foundations; Reinforced concrete structural systems; Structural steel construction; Structural timber construction; Structural masonry construction; Prefabricated structural systems.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*

	15 Oct 2013	January 2014		
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS 5504:	Technical Fundamentals				
Course number:	CONS 5504	**Level:**	5	**Credits:**	15
Main programme:	Bachelor of Construction			Compulsory	
Pathway(s):					
Requisites / Restrictions:					
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to develop an understanding of the basic techniques and systems involved in planning and estimating.

Learning Outcomes:

1. **Describe the key systems involved in the creation of buildings**
   - Basic information management in the industry
   - Principles of quality systems.
   - Principles of risk management including professional liability, safety and risk management.
2. **Describe simple planning techniques to organise resources on a construction project.**
   - The use of bar charts and network diagrams to organise project resources.
   - Manually calculated simple logic diagrams.
3. **Apply quantification techniques used in the industry.**
   - Quantities and resources for simple work packages.
4. **Apply basic estimating and pricing techniques used in the industry**
   - Unit price estimating of resource requirements
   - Estimates of costs for simple work packages.

Learning and Teaching:

Learning workshops will be either half day twice a week or one day once a week for seven weeks. Activities in workshops will generally be student centred and problem solving in nature often involving group work and student presentations etc. Activities may also include presentations by staff and guest speakers, visits to sites etc. Self-directed work will build on workshop activities and generally have assessment embedded in it. Learning will be supported by appropriate resources accessed through Moodle.

Topics:

Basic information management systems. The structure of drawn information. The structure of text information, such as specifications. B.I.M. Introductory quality management theory: Improvement tools; Improvement cycles; Assurance methods. Introductory risk management theory: Risk management; Management and control cycles. Basic Planning: Bar charts and Logic diagrams; Activity-on-Arrow and Activity-on-Node (Precedence) diagrams; Manual calculation and network duration; Manual calculation of float and free float in networks Software (Project, Xpert, etc); Calendars and milestones; Basic reports. Basic measuring: Measurement theory; Introduction to Standard Methods of Measurement; Basic manual measurement techniques. Basic estimating: Estimation theory; Introduction to estimating techniques; Unit price estimating.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
	15 Oct 2013	January 2014		Sub-learning outcomes edited. Learning and teaching strategies and learning time description changed. Assessment breakdown changed.
	01/05/2014		BConst Prog Comm	Approval of Change to Assessment weighting
	25 Oct. 2018	January 2019	PIC	Assessment: To decrease the exam weighting from 40% to 30% and increase the coursework weighting to 70%
4	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS 5505:	Team Management				
Course number:	CONS 5505	**Level:**	5	**Credits:**	15
Main programme:	Bachelor of Construction			Compulsory	
Pathway(s):					
Requisites / Restrictions:					
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to develop an understanding of the people and processes involved in construction and to develop the skills required for effective interactions at an individual, group and organisational level within the construction industry.

Learning Outcomes:

1. **Describe the nature of construction projects.**
   - The organisational structure of projects.
   - The roles of participants in projects.
   - The main phases of a construction project from idea to completed building.
   - Health and Safety in the construction environment
2. **Investigate problem solving models using group interactions.**
   - Problem types and problem-solving models.
   - Models of behaviour in formal and informal groups.
3. **Examine models of thinking skills.**
   - Critical thinking in the professional context.
   - Models of structured thinking and ideas formulation.
   - Formulation and presentation of structured argument in the professional context.
4. **Analyse issues of communication in a professional context**
   - Oral and written skills required in the professional context.
   - Personal communication skills.
   - Professional communication techniques.
5. **Examine professional relationships and group interactions.**
   - Types and techniques of industry documentation.
   - Professional presentation techniques.
   - Professional reports.
   - Approaches to communicating and working with people from different cultures.

Learning and Teaching:

Learning workshops will be either half day twice a week or one day once a week for seven weeks. Activities in workshops will generally be student centred and problem solving in nature often involving group work and student presentations etc. Activities may also include presentations by staff and guest speakers, visits to sites etc. Self-directed work will build on workshop activities and generally have assessment embedded in it. Learning will be supported by appropriate resources accessed through Moodle.

Topics:

Construction Industry Structure; Project-phases and structure; Roles in industry; Health and Safety in the construction Industry; Theory of communication: Transactional model of communication; Verbal and non-verbal communication; Information and communication technology. Information literacy: Algorithmic and Heuristic problem types; Problem solving models; Creative thinking; Explore models of creative thinking; Critical reading; Critical thinking;
Graphical communication; Interpretation of drawings; Oral and visual communication; Structured writing; Referencing.Group dynamics: Group roles and team behaviour; Leadership; Meetings;

Communication networks; Group processes and development; Motivation and productivity; Examine and interpret sources of industry and general information; Communication from different cultural perspectives.

Assessment:

Assessment	Weighting	Threshold
Coursework	100%	40% for the individual assessment

A minimum pass mark of 40% is required in the individual assessment to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
	15 Oct 2013	January 2014		Learning and teaching strategies and learning time description changed. Assessment breakdown changed. LOs: addition of LO1, changes to LO4. Sub-learning outcomes edited. Topics.
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS5506:	Construction Communications and Documentation				
Course number:	CONS5506	**Level:**	5	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	All majors			Elective	
Requisites / Restrictions:					
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:
To develop technical research skills along with oral, written, graphical and interpersonal communication skills required for effective interactions within the construction industry.

Learning Outcomes:
On successful completion of the course the student will be able to:

1. Apply information obtained from print or web-based resources to technical problem solving and presentations.
2. Communicate technical concepts and findings in written and graphical formats.
3. Understand the basic concepts of design processes, documentation and management
4. Create and use a range of construction drawings as a communication technique to present ideas and data.

Learning and Teaching:
The learning and teaching for the course may use a variety of models They may include on-campus, on-line, work-based, independent, and blended learning.

Learning activities for topics may typically include practical/workshop/lab sessions, lectures, tutorials, field trips, group work, visiting specialists, computer emulations, web technologies, and self-directed learning.

Indicative content

- Use of appropriate print and web-based resources, technical and business communication to current standards and codes including referencing systems.
- Computer application tools, e.g. word-processors, spreadsheets, presentation graphics
- Outline of standard construction drawing techniques, projections, dimensioning principles. Processes around development and management of concepts of modern 2D and 3D documentation.
- View, manipulate and create construction drawings in an appropriate software package.

Assessment:

No.	Assessment Type	Pass criteria	Weighting	Outcome assessed
	Portfolio of Evidence	Overall Grade C- to A+		Los 1, 2, 3, 4

Unless otherwise indicated above, the weighting of the overall assessment is equally distributed across learning outcomes. A variety of assessment tasks may be used to ensure that all learning outcomes are adequately demonstrated to achieve the graduate profile of the qualification.
The contents of students' portfolios may typically include evidence of achievement from assignments, projects, tests, exams, formative assessments, peer assessments, self and group assessments.

Assessment judgements are guided by the aim statement of the course descriptor, by internal and external moderation, by the assessment policy and practice of Unitec, and by level-related criteria published by NZQA.

Learning resources

Recommended texts, industry documents, websites and other resources as published by the learning management system for the course.

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	05.09.17	Sem 1, 2018	PR	New course
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

EAPL 5155:	English for Specific Purposes				
Course number:	EAPL 5155	Level:	5	Credits:	15
Main programme:	Bachelor of Construction			Elective	
Pathway(s):					
Requisites/ Restrictions:	Nil				
Other programmes:					
NZSCED field of Study:		Delivery mode:	Mixed mode		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
64	0	86	150

Outcome Statement:
To assist students of English as an Additional Language to engage with the content of an academic/professional/vocational field and to develop an ability to comprehend oral and written texts, and to use the language characteristics of the field.
Learning Outcomes:

	By the end of this course students will be able to:
1.	*access and comprehend, summarise and synthesise authentic information about the context of the discipline/specialisation;*
2.	*use discipline-specific vocabulary appropriate to the relevant oral and written discourse;*
3.	*use written discourse of the relevant field effectively, accurately and appropriately;*
4.	*apply listening and note-taking strategies to record lectures and course materials.*

Learning and Teaching:
The content of the course can be delivered either face to face or in a blended mode.
This course uses a combination of interactive sessions focusing on the structure, language and discourse of the relevant spoken and written genres with additional support from the course Moodle shell. This combination ensures the course focuses on the major genres typical of the relevant discipline and enables learners to observe and appreciate improvements in their use of general and discipline-related language. Directed self-study, topical readings, the use of Moodle and/or other online resources for interactions, and early detection of students' language issues via the portfolio assessment provide support for the learning of the relevant professional/vocational field and students' independent learning. Living Curriculum key principles apply to the course. These include Matauranga Māori Nohatahi (co-operation) and Ngakau Mahaki (respect) principles, as well as Sustainability as reflected throughout the course.

Topics:
Analysis of content, organisation and language features of discipline-specific text types, printed or electronic
Main reading strategies
Vocabulary learning strategies enhanced by the use of electronic tools
Explicit and implicit meaning in written texts, critical reading skills
Note-taking and summarising and skills
Oral presentation skills
Information technology and research skills
Taking notes of course materials

Weighting	Nature of assessment	Learning outcomes
30%	Portfolio of course work items	1,2
30%	Reading & Listening exam *(with texts using discipline-specific vocabulary)*	1,2,4
40%	Project: Written report & Oral presentation	1,2,3

Learning resources:

Costa, F. (2012). Focus on form in ICLHE lectures in Italy. In Smit, U. &Dafouz, E. (eds.) Integrating Content and Language in Higher Education: Gaining insights into English-medium instruction at European Universities. *AILA Review* 25: 30-47.

Coxhead, A. (2013). Vocabulary and ESP. In Paltridge, P. &Starfield, S. (eds.). *The handbook of English for Specific Purposes* (pp. 115- 132). John Wiley & Sons.

Gibbons, P. (2002). Scaffolding language, scaffolding learning: Teaching second language learners in the mainstream classroom. Portsmouth: Heineman.

Nation, P. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge University Press.

Version Tracking:

Version No.	Date of Change	Effective from	Approved by	Description of change
	01 July 2014		PC	New Course
2	02 May 2017	Sem 2, 2017	PR (15)	Changes to assessments, contact & non-contact hours, learning/teaching approaches and topics
3	9-11 August 2017	Sem 1, 2019	ABSC (3.4)	Change of main programme from B Arts (EAL) to B Construction
4	6 May 2024	Sem 2, 2024	TBC	Reorganisation of portfolio and assessment tasks

CONS 5812: Economic Principles

Course number:	CONS 5812	**Level:**	5	**Credits:**	15
Main programme:	Bachelor of Construction			Compulsory	
Pathway(s):					
Requisites / Restrictions:					
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to explore elements of economic theory and its application to the property and construction sector.

Learning Outcomes:

1. **Examine economic theory.**
   - How market-based economies work.
   - How governments and central banks attempt to control market-based economies
2. **Discuss economic policy in New Zealand.**
   - The behaviour of the NZ economy in terms of changes to GDP and inflation.
   - Economic mechanisms used to manage the New Zealand economy.
   - The application of basic economic principles to current issues in the National and International economy.
3. **Analyse the impact of the economy on the property and construction sector.**
   - The structure of the NZ property industry.
   - The structure of the NZ construction industry.
   - The impact of changes in the NZ economy on the property and construction sector.
   - The impact of monetary and fiscal policy on the property and construction sector.

Learning and Teaching:

Learning workshops will be either half day twice a week or one day once a week for seven weeks. Activities in workshops will generally be student centred and problem solving in nature often involving group work and student presentations etc. Activities may also include presentations by staff and guest speakers, visits to sites etc. Self-directed work will build on workshop activities and generally have assessment embedded in it. Learning will be supported by appropriate resources accessed through Moodle.

Topics:

Economic theory: Allocation of resources; Demand and supply and elasticity; Market structure, strengths and limitations; Market failure; Pricing mechanisms; Monetary supply and monetary policy.

Economic policy in New Zealand: National income determination; National and international trade and economics; Business cycles and trends in New Zealand.The economy and the construction and property sector: Economic impacts of the construction market; Policy impacts on the construction market; Inflation and property and construction; Interest rates and property and construction; Pricing mechanisms in property and construction.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*

	15 Oct 2013	January 2014		Learning and teaching strategies and learning time description changed. Assessment breakdown changed. Amendment comprises a simplifying of the Los.
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS 5818:	Property and Construction Law				
Course number:	CONS 5818	**Level:**	5	**Credits:**	15
Main programme:	Bachelor of Construction			Compulsory	
Pathway(s):					
Requisites / Restrictions:					
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to develop an understanding of the legal context in which the construction and property industry operates

Learning Outcomes:

1. **Discuss the New Zealand legal system and legal concepts**
   - Custom and the rule of law.
   - Moral and legal obligations.
   - The historical source of law in New Zealand and the role of the Treaty of Waitangi.
2. **Describe and discuss non-legislative law**
   - Tortious and contractual obligations.
   - Obligations that arise from giving professional advice.
3. **Describe and discuss the role of Statutory Law.**
   - The role of legislation in controlling building activity.
4. **Describe and discuss the principles of Property law**
   - Real and personal property
   - Land legislation under the Torrens system and by deed.
   - Possession and title in property.
   - Types of interest in land (basket of rights).
   - The compulsory acquisition of property.
5. **Describe and discuss the principles of Contract Law.**
   - The concepts of offer and acceptance, consideration and accord and satisfaction in the formation of contracts
   - The creation of contracts through verbal and written agreements
   - The rights and obligations of parties in contracts.
   - The impact of legislation on contractual rights and obligations.

Learning and Teaching:

Learning workshops will be either half day twice a week or one day once a week for seven weeks. Activities in workshops will generally be student centred and problem solving in nature often involving group work and student presentations etc. Activities may also include presentations by staff and guest speakers, visits to sites etc. Self-directed work will build on workshop activities and generally have assessment embedded in it. Learning will be supported by appropriate resources accessed through Moodle.

Topics:

Legal systems in NZ: Origins and development; Treaty of Waitangi; Judicial structures; Hierarchy; Due process.Non-legislative law: Tort; Negligence; Doctrine and application of precedence; Origins and development of contractual obligations; Professional advice.Property law: Freehold; Leasehold; Tenancy; Titles; Torrens system; Māori land ownership; Crown land; Process of compulsory acquisition of property.Statutory law: Use of Land; Building control; Use of Buildings; Occupational Health and Safety; Business structures; Employment.Principles of Contract Law: Sources of Contract Law; Requirements for contract; Forms of agreement.Contract functions: Risk allocation; Rights and obligations; Performance.Roles of parties in contracts and their responsibilities: Third party administrators to the client/builder contract; Agency; Head contracts and subordinate contracts; Breaches of contract; Dispute resolution.Contract legislation: Contractual Remedies Act, 1979; Contractual Mistakes Act, 1977; Contract (Privity) Act, 1982; Contract Enforcement Act, 1956; Illegal Contracts Act, 1970; Frustrated Contracts Act, 1944; Consumer

Guarantees Act, 1993; Sale of Goods Act, 1908; Commerce Act, 1986; Fair Trading Act, 1986; Construction Contracts Act, 2002.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
	15 Oct 2013	January 2014		Learning and teaching strategies and learning time description changed. Assessment breakdown changed. LOs (Construction Law added). Sub-learning outcomes edited. Topics.
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS 6007:	Sustainable Design and Construction				
Course number:	CONS 6007	**Level:**	6	**Credits:**	15
Main programme:	Bachelor of Construction			Compulsory	
Pathway(s):					
Requisites / Restrictions:					
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to apply sustainable design and construction concepts to the built environment at domestic, commercial and industrial scale.

Learning Outcomes:

1. **Investigate concepts of building life cycle, sustainability and sustainable development**
   - The impact of buildings and development on the environment from a "cradle to the grave" perspective.
   - The concept of embodied energy in buildings.
   - Cost-in-use, life cycle costing and life cycle analysis.
   - Legislative impacts on life cycle management of sustainability.
2. **Examine ways that buildings and human settlement interact with the environment.**
   - Sources of energy consumption in buildings.
   - Sources of pollution in the construction process and the built environment in use.
   - Issues of water consumption, conservation and pollution.
   - The impact of buildings and development on infrastructure.
3. **Examine systems that demonstrate reduction in the impact of the built environment in use.**
   - Impacts of alternative environmental control systems
   - Passive solar design, and alternative active heating systems.
   - Water management and conservation and alternative effluent systems.
4. **Investigate the life cycle impacts of sustainability of material selection and use.**
   - Local and global effects resulting from materials choice.
   - The potential for pollution from materials in production, use and disposal
   - Approaches to design for waste reduction, recycling and recovery.

Learning and Teaching:

Learning workshops will be either half day twice a week or one day once a week for seven weeks. Activities in workshops will generally be student centred and problem solving in nature often involving group work and student presentations etc. Activities may also include presentations by staff and guest speakers, visits to sites etc. Self-directed work will build on workshop activities and generally have assessment embedded in it. Learning will be supported by appropriate resources accessed through Moodle.

Topics:

Life cycle approach: Embodied energy in buildings; Life cycle calculations; Legislation – RMA, local government approaches and global agreements.Human settlement and interaction with the environment: Energy consumption; Sources of pollution, silt control, contaminants; Water consumption; Development scale; Sustainable subdivision.Reduction in the impact of the built environment.: Environmentally sensitive design (ESD); Passive solar design; Sustainable energy systems; Water conservation; Alternative effluent systems; Green Star rating.Sustainable material selection and use: Sustainable materials; Service and maintenance of materials; Waste disposal; Design of waste minimisation; Design for deconstruction.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	

Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
	15 Oct 2013	January 2014		Sub-learning outcomes edited. Learning and teaching strategies and learning time description changed. Assessment breakdown changed.
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS 6008:	Building Services				
Course number:	CONS 6008	**Level:**	6	**Credits:**	15
Main programme:	Bachelor of Construction			Compulsory	
Pathway(s):					
Requisites / Restrictions:					
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to develop knowledge of building services and their significance in the construction phase, including an examination of those used in commercial, multi-storey, and specialist buildings.

Learning Outcomes:

1. **Examine the broad significance of building services.**
   - The functions of building services.
   - The performance requirements of building services.
   - The infrastructure requirements of building services.
2. **Identify and examine the main impacts of building services on construction of buildings**
   - The spatial requirements of building services
   - Builders work for services installation
   - Access and coordination requirements for services installation
   - Functional diagrams to convey services information
3. **Analyse system characteristics.**
   - Services systems for different requirements
   - Lifecycle costing for services selection

Learning and Teaching:

Learning workshops will be either half day twice a week or one day once a week for seven weeks. Activities in workshops will generally be student centred and problem solving in nature often involving group work and student presentations etc. Activities may also include presentations by staff and guest speakers, visits to sites etc. Self-directed work will build on workshop activities and generally have assessment embedded in it. Learning will be supported by appropriate resources accessed through Moodle.

Topics:

Significance of building services: Function; Performance, code compliance; Energy infrastructure -electricity, gas, liquid and solid fuels.Impact of building services on construction:Plant room/vertical shaft provision; vertical/horizontal distribution; Access installation/maintenance; Co-ordination; Documentation schematics.System characteristics of medium and large buildings: Water supply; Hydraulics-Sanitary and soil waste systems; Mechanical ventilation; Air conditioning; Energy systems – heating and cooling; Active fire protection systems, smoke control, signage and lighting; Vertical transportation; Electrical systems, lighting, power; Telecommunications; Security; Building management systems; Intelligent buildings.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*

	15 Oct 2013	January 2014		Learning and teaching strategies and learning time description changed; Assessment breakdown changed; Pre-requisite changed; and Sub-learning outcomes edited.
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS 6104: Technology 4

Course number:	CONS 6104	**Level:**	6	**Credits:**	15
Main programme:	Bachelor of Construction			Compulsory	
Pathway(s):					
Requisites / Restrictions:	Pre-requisites: CONS5101 & CONS5102				
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to explore the methods and characteristics of building envelope and fitout systems for multi-storey buildings.

Learning Outcomes:

1. **Compare building envelope systems.**
   - Performance requirements
   - The performance characteristics and maintenance requirements of alternative systems
   - Prefabricated systems as alternatives to traditional systems
   - Systems that facilitate sustainable buildings.
2. **Compare building fit-out systems.**
   - Performance requirements
   - The performance characteristics and maintenance requirements of alternative systems
   - Prefabricated systems as alternatives to traditional systems
   - Systems that facilitate sustainable buildings.
3. **Explain the role of passive fire systems, fire design, egress and code.**
   - Principles of fire protection.
   - Methods of compliance with current legislation.

Learning and Teaching:

Learning workshops will be either half day twice a week or one day once a week for seven weeks. Activities in workshops will generally be student centred and problem solving in nature often involving group work and student presentations etc. Activities may also include presentations by staff and guest speakers, visits to sites etc. Self-directed work will build on workshop activities and generally have assessment embedded in it. Learning will be supported by appropriate resources accessed through Moodle.

Topics:

Multi storey residential and commercial buildings. Building envelope: Principles of climate performance; Preventing water entry - laps, drained joints, sealants, moisture barriers, baffles; Roof systems - flat roofs and membranes, metal deck roofs, glazed roofs; External protection systems and coatings; Wall systems - precast concrete, curtain walls, glazed walls. Inter tenancy issues; The impact of the building envelope on energy exchange. Systems for passive control of the internal environment. Building Fit out: Partitions; Ceilings; Fittings and equipment; Refurbishment criteria and procedures; Prefabrication: Proprietary elements and components; Fire Design: Passive fire systems; Egress; Code.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*

	15 Oct 2013	January 2014		
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS6201:	Measurement and Estimation 1				
Course number:	CONS6201	**Level:**	6	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	Construction Economics major			Compulsory	
Requisites / Restrictions:	Pre-requisites: (CONS5101 or CONS5102) & CONS5504				
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to be able to quantify work to be done and prepare estimates of cost for simple buildings for cost modelling and bidding purposes.

Learning Outcomes:

1. **Prepare estimates for the purpose of cost modelling during the design phase of simple buildings.**
   - Quantification work in accordance with a set of rules for elemental estimating.
   - Elemental pricing techniques.
2. **Derive schedules of quantities for simple work packages in accordance with a standard method of measurement.**
3. **Derive estimates of cost for simple work packages using unit rate techniques.**

Learning and Teaching:

Learning workshops will be either half day twice a week or one day once a week for seven weeks. Activities in workshops will generally be student centred and problem solving in nature often involving group work and student presentations etc. Activities may also include presentations by staff and guest speakers, visits to sites etc. Self-directed work will build on workshop activities and generally have assessment embedded in it. Learning will be supported by appropriate resources accessed through Moodle.

Topics:

Quantity surveying practice: Common process models; Common tools and techniques – Estimating, Cost planning, Schedules of Quantities;Use of manual techniques and spread-sheets in quantity surveying practice;Cost planning practice, procedure and techniques at concept and developed design stageMeasurement: The theory of measurement; Traditional measuring techniques; Abstracting measuring techniques.Unit rate estimating techniques.Accuracy in estimating: Accuracy in the context of project phases; Acceptable levels of accuracy; Consequences of inaccurate estimation.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
	15 Oct 2013	January 2014		
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS6202: Measurement and Estimation 2

Course number:	CONS6202	**Level:**	6	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	Construction Economics major			Compulsory	
Requisites / Restrictions:	Pre-requisites: CONS6201				
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to be able to conduct cost modelling processes and quantify work to be done and prepare estimates of cost for moderately complex work packages for bidding purposes.

Learning Outcomes:

1. **Examine cost modelling processes for moderately complex buildings.**
   - Techniques for setting budget for construction projects.
   - Techniques for assisting the design team to design within budgets.
2. **Derive schedules of quantities for selected work packages in accordance with a standard method of measurement.**
3. **Derive estimates of cost for selected work packages using unit rate techniques.**

Learning and Teaching:

Learning workshops will be either half day twice a week or one day once a week for seven weeks. Activities in workshops will generally be student centred and problem solving in nature often involving group work and student presentations etc. Activities may also include presentations by staff and guest speakers, visits to sites etc. Self-directed work will build on workshop activities and generally have assessment embedded in it. Learning will be supported by appropriate resources accessed through Moodle.

Topics:

Cost modelling practices: Common process models; Common tools and techniques for setting budgets and designing to budget targets. Early price estimating and advice at inception, concept and design brief stages. Typical functional unit estimating methods.Cost analysis and estimation practice; Cost analyses of existing projects; Constructing a cost database library; Data sources; Data validation; Cost price indexes.Design phase estimating and cost management: Providing early budget breakdown; Procedures for design phase cost management; Monitoring designs and providing progressive advice.Design economics including issues such as building morphology that impact on building costs.Use of manual and computer based techniques in quantity surveying practice.Unit rate estimating techniques.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	15 Oct 2013	January 2014		

CONS 6401:	Planning and Organisation 1				
Course number:	CONS 6401	**Level:**	7	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	Construction Management major			Compulsory	
Requisites / Restrictions:	Pre-requisites: CONS5504 & (CONS5101 or CONS5102)				
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:
To enable students to plan and organise simple construction projects.

Learning Outcomes:

1. Apply planning fundamentals to a simple project
    - Develop an appropriate Work Breakdown Schedule
2. Develop a construction methodology report for a simple project
    - Identify appropriate site facilities
    - Identify appropriate temporary works / plant & equipment
    - Model a site layout
    - Model workflow and resource movement
3. Apply scheduling fundamentals to a simple project
    - Generate project activities based on WBS and CMR
    - Develop logical precedence relationships
    - Perform calculations to derive critical path and float analysis
    - Determine schedule based on construction methodology
4. Identify safety requirements for a simple project
    - Perform a hazard identification and mitigation analysis
    - Write work rules for inclusion in site specific safety plan

Learning and Teaching:
Learning workshops will be either half day twice a week or one day once a week for seven weeks. Activities in workshops will generally be student centred and problem solving in nature often involving group work and student presentations etc. Activities may also include presentations by staff and guest speakers, visits to sites etc. Self-directed work will build on workshop activities and generally have assessment embedded in it. Learning will be supported by appropriate resources accessed through Moodle.

Topics:
A simple open warehouse with basic office accommodation and ablution services. Expose structure and services. Pre-planning projects: The importance of planning prior to site commencement; Techniques for pre-planning (brainstorming, charting, etc.); Involving stakeholders. Risk assessment during the planning phase. Determining and evaluating construction methodologies. Resource requirements: Plant; Hoisting, (materials and personnel); Material schedules and handling. Site layout: Work and resource flow diagrams; Materials handling, storage and distribution; Site facilities and amenities. Temporary works (sacrificial work): Site facilities; Formwork; Scaffolding; Hoardings. Plant selection: Lifting circles and schedules; Installed versus mobile plant; Electric versus hydraulic power tool systems. Scheduling techniques: Work Breakdown Structures, Work sequence; Resourcing a schedule. Resource levelling. Control using check lists. Site safety: Safety planning; Hazard identification; Hazard management.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	15 Oct 2013	January 2014		
2	25 Oct. 2018	January 2019	PIC	Add restriction CONS6100 Project Management Principles to CONS6401. Remove from the GDCPM
3	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS 6402: Planning and Organisation 2

Course number:	CONS 6402	**Level:**	6	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	Construction Management major			Compulsory	
Requisites / Restrictions:	Pre-requisites: CONS6401				
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to plan and organise moderately complex construction projects.

Learning Outcomes:

1. Develop a construction methodology for a moderately complex project
    a. Assess constraints and risks associated with the project
    b. Investigate site for developing construction methodology
    c. Calculate plant requirements for earthworks and lifting equipment

2. Develop a site utilisation plan
    a. Identify appropriate site facilities, plant and equipment
    b. Assess workflow and resource movement
    c. Discuss plans impacts on cost, time, quality and H&S

3. Develop quality assurance systems and procedures
    a. Evaluate quality management systems
    b. Include quality assurance processes as part of the construction methodology

4. Develop a health and safety management plan
    a. Identify health and safety risks
    b. Evaluate methods for managing health and safety

5. Evaluate sustainability issues as they apply to the construction process
    a. Identify negative environmental impacts during a construction process
    b. Develop a construction environmental management plan

Learning and Teaching:

Learning workshops will be either half day twice a week or one day once a week for seven weeks. Activities in workshops will generally be student centred and problem solving in nature often involving group work and student presentations etc. Activities may also include presentations by staff and guest speakers, visits to sites etc. Self-directed work will build on workshop activities and generally have assessment embedded in it. Learning will be supported by appropriate resources accessed through Moodle.

Topics:

Up to four storey buildings with multiple internal partitions, hidden structure and services, and basement level(s). Determining and evaluating construction methodologies. Site layout: Materials handling, storage and distribution; Site facilities and amenities.

Temporary works (sacrificial work): Site facilities; Formwork; Scaffolding; Hoardings.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	15 Oct 2013	January 2014		
2	25 Oct. 2018	January 2019	PIC	Add restriction CONS7200 Project Management Practice to CONS6402. Remove from the GDCPM
3	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS6601:	Transition Studies 1				
Course number:	CONS6601	**Level:**	6	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	All majors			Elective	
Requisites / Restrictions:	Pre-requisites: Relevant Diploma at Level 6				
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
		150	150

Outcome Statement:
To enable students to transition into the Bachelor of Construction programme by building upon the learning achievements from a related programme. Knowledge and skills that need to be acquired or to be supplemented will be identified and achieved.

Learning Outcomes:

1. Identify and critically evaluate own knowledge and learning within the context of the desired transition
2. Create a study plan in consultation with an academic advisor that matches the needs of required learning and assessment
3. Complete the agreed learning and assessment elements specified in the study plan.

Learning and Teaching:
The course is delivered by self-directed learning and may use a variety of activities according to the needs of the study plan and the individual learner.

For every negotiated study plan, the student and academic advisor must agree that that proposed study is feasible and appropriate and has learning and assessment outcomes at the appropriate for the level of study.

Assessment:
An assessment structure appropriate for the individual study plan (including individual weighting for agreed assessment elements) will be negotiated and defined in the study plan and will include a structure for providing feedback on progress during the course.

Weighting	Nature of assessment	Learning outcomes
100%	A negotiated study plan which fulfils the requirements of elements of the graduate profile.	1

Learning resources
Learning resources will be determined by individual need according to the agreed study plan.

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	**05.09.17**	**Sem 1, 2018**	**PR**	**New course**

CONS6602:	Transition Studies 2				
Course number:	CONS6602	**Level:**	6	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	All majors			Elective	
Requisites / Restrictions:	Pre-requisites: Relevant Diploma at Level 6				
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
		150	150

Outcome Statement:
To enable students to transition into the Bachelor of Construction programme by building upon the learning achievements from a related programme. Knowledge and skills that need to be acquired or to be supplemented will be identified and achieved.

Learning Outcomes:

1. Identify and critically evaluate own knowledge and learning within the context of the desired transition
2. Create a study plan in consultation with an academic advisor that matches the needs of required learning and assessment
3. Complete the agreed learning and assessment elements specified in the study plan.

Learning and Teaching:
The course is delivered by self-directed learning and may use a variety of activities according to the needs of the study plan and the individual learner.

For every negotiated study plan, the student and academic advisor must agree that that proposed study is feasible and appropriate and has learning and assessment outcomes at the appropriate for the level of study.

Assessment:
An assessment structure appropriate for the individual study plan (including individual weighting for agreed assessment elements) will be negotiated and defined in the study plan and will include a structure for providing feedback on progress during the course.

Weighting	Nature of assessment	Learning outcomes
100%	A negotiated study plan which fulfils the requirements of elements of the graduate profile.	1

Learning resources
Learning resources will be determined by individual need according to the agreed study plan.

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	**05.09.17**	**Sem 1, 2018**	**PR**	**New course**

CONS 6811: Tendering

Course number:	CONS 6811	**Level:**	6	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	Construction Management major Construction Economics major			Compulsory	
Requisites / Restrictions:	Pre-requisites: CONS5818 AND CONS5504				
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to:

- Examine the components that make up a contractor's tender and to compile typical tender submissions.
- Evaluate the risks associated with tendering and how bidding strategy can mitigate these risks.

Learning Outcomes:

1. **Examine the components of a contractor's tender**
   - Cost variables for estimating construction work.
   - The role of sub-contractors in bidding
   - Different packaging strategies
   - Sub-contractor selection criteria
   - The principles, techniques and approaches for pricing Preliminaries.
2. **Evaluate tendering risks and related bidding strategy**
   - The sources of risk in bidding
   - The effect of varying procurement methods on the estimating process.
   - Bidding theory and its application to tendering
   - Market related bidding strategy
3. **Compile tender submissions**
   - Tender submission compilation for a selected project
4. **Examine the evaluation of tenders from a client representative perspective**
   - Techniques for evaluating tenders
   - Techniques for dealing with non-compliant tenders

Learning and Teaching:

Learning workshops will be either half day twice a week or one day once a week for seven weeks. Activities in workshops will generally be student centred and problem solving in nature often involving group work and student presentations etc. Activities may also include presentations by staff and guest speakers, visits to sites etc. Self-directed work will build on workshop activities and generally have assessment embedded in it. Learning will be supported by appropriate resources accessed through Moodle.

Topics:

Tendering processes and tendering: Review of unit rate estimating; Contractors work, direct labour, preliminaries, work packages; Allocation of preliminaries and general work; Pre-selection of sub-contractors and suppliers; Sub-contract prices and quotations; Evaluation criteria; Plug prices, comparative prices, obtaining prices and selecting contractors; Establishing contract durations; Profit and overhead and preliminary and general cost recovery; Hire/buy plant decisions.Bidding strategy: Bidding theory; Formulation of bidding strategies to allow for competition and economic/financial factors; Risk assessment and mitigation; Establishing competitive margins.Evaluation of tenders.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	

Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	15 Oct 2013	January 2014		Learning and teaching strategies and learning time description changed. Assessment breakdown changed. LO 4 added. Sub-learning outcomes edited. Recommended text list amended.
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS 6812: Contract Administration

Course number:	CONS 6812	**Level:**	6	**Credits:**	15
Main programme:	Bachelor of Construction			Compulsory	
Pathway(s):					
Requisites / Restrictions:	Pre-requisites: CONS5818				
Other programmes:	GDCPM No requisites.				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to apply the principles of contract law to standard forms of contract.

Learning Outcomes:

1. **Analyse the roles and responsibilities of parties under standard forms of contract**
   - The rights and obligations of the parties to the contract
   - The role of the Engineer or Architect to the contract
   - The role of the client and consultants.
   - The relationships between Head Contractors and Sub-contractors under forms of sub-contract.
2. **Interpret clauses and develop processes to meet their requirements**
   - Clauses in head contracts
   - Clauses in sub-contracts
3. **Compare dispute resolution methods**
   - Adjudication, mediation and arbitration.
4. **Examine the Impact of Legislation and Common Law on Contractual Rights and Obligations**
   - Legislation concerning terms and conditions of payment and the administration requirements that result.
   - The impact of common law on the interpretation and administration of contracts.
   - The impact of legislation concerning dispute resolution.

Learning and Teaching:

Learning workshops will be either half day twice a week or one day once a week for seven weeks. Activities in workshops will generally be student centred and problem solving in nature often involving group work and student presentations etc. Activities may also include presentations by staff and guest speakers, visits to sites etc. Self-directed work will build on workshop activities and generally have assessment embedded in it. Learning will be supported by appropriate resources accessed through Moodle.

Topics:

Contract forms: Standard conditions; Interpretation of terms;Roles of parties in contracts and responsibilities: Third party administrators to the client/builder contract; Head contracts and subordinate contracts;Scope related clauses: variations including their valuation, expenditure of provisional sums, expenditure of contingent sums.Payment related clauses: Progress payments, final accounts, adjustment for cost escalation. Dealing with payment for offsite materials; Time related clauses: Extensions of time, common law issues relating to extension of time clauses (including the impact of their absence). Liability for and valuation of the cost of delay; Practical completion. Damages for delay; Dispute resolution, alternatives and their advantages and disadvantages; Legislation such as the Construction Contracts Act 2002 and their impact on contract administration procedures.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

REQUIRED TEXTS

NZS 3910: 2003. *Conditions of Contract for the Building and Civil Engineering Construction.* Standards New Zealand, Wellington.

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	15 Oct 2013	January 2014		
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS 6817:	Procurement				
Course number:	CONS 6817	**Level:**	6	**Credits:**	15
Main programme:	Bachelor of Construction			Compulsory	
Pathway(s):					
Requisites / Restrictions:					
Other programmes:	GDCPM No requisites.				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to examine the relationship between a client's strategic property needs and the procurement systems available to procure required capital works.

Learning Outcomes:

1. **Differentiate clients and examine their varying objectives in procuring capital works.**
   - Client's property needs and the relationship with business strategy.
   - Areas of risk for clients.
   - Client's project financing structures
   - The long-term procurement needs of clients with on-going capital needs
2. **Compare the aims and objectives of procurement systems.**
   - Risk management/sharing mechanisms.
   - Financial structures in procurement systems.
   - The integration of capital works with business delivery (operations).
   - Procurement systems which reach beyond the first tier and influence procurement through the supply chain.
   - Procurement systems which are designed to motivate specific behaviour.
3. **Deduce appropriate procurement strategies for different scenarios.**
   - The suitability of various procurement strategies for different needs.

Learning and Teaching:

Learning workshops will be either half day twice a week or one day once a week for seven weeks. Activities in workshops will generally be student centred and problem solving in nature often involving group work and student presentations etc. Activities may also include presentations by staff and guest speakers, visits to sites etc. Self-directed work will build on workshop activities and generally have assessment embedded in it. Learning will be supported by appropriate resources accessed through Moodle.

Topics:

Clients: Requirements in capital works; Business environment and strategy.Risk in capital works: Risk and risk analysis and management; Sources of risk.Project finance: Financing needs; Sources of finance.Packaged services: Integrating business provision with delivery of capital works.Strategic procurement: E-procurement; Supply chain management; Motivating performance.Procurement systems: Separated systems; Integrated systems; Management oriented systems; BOO and BOOT schemes; Partnering; Alliances; Joint ventures; Service contracts; Others.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*

1	15 Oct 2013	January 2014		Learning outcomes simplified. Learning and teaching strategies and learning time description changed. Assessment breakdown changed. Recommended text list amended.
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS6906: Development and Finance

Course number:	CONS6906	**Level:**	6	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	Construction Economics major Property Development major			Compulsory	
Requisites / Restrictions:					
Other programmes:	GDCPM No pre-requisites.				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to explore the concept of property development and the concepts that underpin its management.

Learning Outcomes:

1. **Analyse the concept of property development.**
   - The drivers of commercial and non-commercial property development.
   - The processes followed to take a project from inception to completion.
2. **Derive a project financial feasibility study.**
   - Project feasibility study techniques.
   - Sources of risk and their influence on financial feasibility.
   - Returns relative to risk.
3. **Examine funding for projects.**
   - The funding requirements for a project.
   - Sources of funds for projects.
   - Modelling project cash-flows and finance costs.
   - Bank draw down requirements and their impact on contract-administration
4. **Analyse market influences.**
   - Modelling the impact of market variables on project feasibility.
   - Strategies for controlling the impact of market variables on project feasibility.
5. **Evaluate "whole of life" cost benefit techniques.**
   - Methods for comparing trade-offs between capital cost and operating cost.
   - Life cycle cost analysis techniques.
   - Factors such as environmental cost in comparative analyses.

Learning and Teaching:

Lectures including where possible delivery by appropriate guests. Web based delivery of course documentation. On-line tutorials and assignment delivery where appropriate. Tutorials may include workshops, group exercises and discussions, with student presentations and peer review.

Topics:

Property development overview: Reviewing the concept of real property and improvements on land; Nature of property development; Property development process and major players; Development risks and risk management strategies.Feasibility analysis: Research and market analysis; Highest and best use analysis; Basic financial feasibility analysis; Land acquisition; Detailed financial feasibility analysis; Testing the variables: sensitivity and probability analysis; Measures of profit and return on capital employed; Software available for preparing feasibility analysis.Funding projects: Sources of funds; Using different funding streams at different stages; Funding bodies' requirements; Security provisions; Mortgages and amortization. 'Whole of life' cost benefit techniques: Reviewing the six basic discounted cash flow calculations; The meaning of discount rates; Life cycle cost analysis; Uncertainty assessment in life cycle cost analysis. Market impacts on development decisions: Triple bottom line analysis; Price escalation (inflation); Taxation; Market indicators and trends; Sustainable development; Marketing plans in property development; Developer behaviour during market cycles.

Assessment:

Assessment	Weighting	Threshold

Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	15 Oct 2013	January 2014		
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS6907: Property Valuation

Course number:	CONS6907	**Level:**	6	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	Property Development major			Compulsory	
Requisites / Restrictions:	Pre-requisites: CONS5818				
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48		102	150

Outcome Statement:

To enable students to examine property valuation concepts and practices and their influence on property development

Learning Outcomes:

1. **Evaluate property valuation in New Zealand.**
   - The context of professional practice in valuation.
   - Aspects of property law affecting the valuation of property
   - Taxation applicable to property.
2. **Evaluate valuation principles, concepts and definitions.**
   - Nature of value and factors that influence value
   - The statutory and professional obligations of the valuation profession
   - Property valuation principles
   - Key valuation approaches and methodology.
3. **Derive the value of residential and commercial property.**
   - Appropriate methods for different property uses
   - The impact of different uses on valuations
   - Techniques for valuation of leasehold and fractional interests
   - Simple valuation reports
   - The limitations of valuers' advice in the context of property development feasibility studies.

Learning and Teaching:

Lectures including where possible delivery by appropriate guests. Web based delivery of course documentation. On-line tutorials and assignment delivery where appropriate. Tutorials may include workshops, group exercises and discussions, with student presentations and peer review.

Topics:

Property Law: Tenure and estates; Titles to land; Land, fixtures & chattels; Compulsory acquisition; Mortgages & caveats; Subdivisions; Leases; Sale of land; Property and taxes; Overview, hot topics; Rating and land taxes.The ValuersAct 1948.Introduction to valuation: Purpose and types of valuations; Basic valuation principles, concepts and definitions; Determinants of value; The valuation process; The role of the valuer. Residential valuation and report writing; Sales comparison approach; Sources of data; Units of comparison; Adjustment of data to enable comparison; Insurance replacement calculations; Reconciling value indications and valuation reports; Valuations as mortgage / lending criteria; Land valuation and subdivision. Property income valuation techniques: Cash flow estimation; Income capitalization approach; Profit method of valuation; Residual land valuation; Depreciated replacement cost valuation; Discounted cash flow analysis techniques; Analysis of funding leverage and tax implications on valuation; Valuation of leasehold and fractional interests; Addressing valuation uncertainty.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
	15 Oct 2013	January 2014		
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS7105: Advanced Construction Technology

Course number:	CONS 7105	**Level:**	7	**Credits:**	15
Main programme:	Bachelor of Construction			Elective	
Pathway(s):					
Requisites / Restrictions:	Pre-requisites: CONS6104, 6402				
Other programmes:	GDCPM. No pre-requisites. Restrictions CONS7903				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48	0	102	150

Outcome Statement:
To enable students to explore issues of advanced construction technology.

Learning Outcomes:
On successful completion of this course the student will be able to:

1. • Evaluate selected construction technology developments where advances are being made in construction materials and systems, and where advances are being made in assembly techniques.
2. • Critically examine, in terms of benefits, the application of an advanced construction technology to a national construction industry.

Learning and Teaching:
The learning and teaching for the course may use a variety of models They may include on-campus, on-line, work-based, independent, and blended learning.
Learning activities for topics may typically include practical/workshop/lab sessions, lectures, tutorials, field trips, group work, visiting specialists, computer emulations, web technologies, and self-directed learning.

Topics:
It is intended that this course will explore current and potential future developments in construction technology. As an example: potential solutions to the problems of bringing existing buildings up to required seismic standards could be investigated. Other topics could be, factory made/assembled packages, digital fabrication, Robotic manufacture and construction; Intelligent buildings, automatic condition monitoring, Virtual reality in construction.

Assessment:

No.	Assessment Type	Pass criteria	Weighting	Outcome assessed
	Portfolio of Evidence	Overall Grade C- to A+	See notes	All LOs

Unless otherwise indicated above, the weighting of the overall assessment is equally distributed across learning outcomes. A variety of assessment tasks may be used to ensure that all learning outcomes are adequately demonstrated to achieve the graduate profile of the qualification.

The contents of students' portfolios may typically include evidence of achievement from assignments, projects, tests, exams, formative assessments, peer assessments, self and group assessments.

Assessment judgements are guided by the aim statement of the course descriptor, by internal and external moderation, by the assessment policy and practice of Unitec, and by level-related criteria published by NZQA.

Learning resources:
Recommended texts, industry documents, websites and other resources as published by the learning management system for the course.

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
	15 Oct 2013	**January 2014**		
1	**05.09.17**	**Sem 1, 2018**	**PR**	**Various course modifications**

CONS7203:	Measurement and Estimation 3				
Course number:	CONS7203	**Level:**	7	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	Construction Economics major			Compulsory	
Requisites / Restrictions:	Pre-requisites: CONS6202 & CONS6104 & CONS6008				
Other programmes:	GDCPM. No Prerequisites.				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
32		118	150

Outcome Statement:

To enable students to be able to conduct cost modelling processes, quantify work to be done and prepare estimates of cost for moderately complex buildings for bidding purposes with a focus on building services and green buildings.

Learning Outcomes:

1. **Examine cost modelling processes for buildings services.**
   - Techniques for setting budget for building services.
   - Techniques for assisting the design team to design services within budgets.
2. **Examine cost modelling issues in green buildings.**
   - Techniques for assessing the additional costs and setting budgets for green buildings.
3. **Derive schedules of quantities for selected work packages in accordance with a standard method of measurement.**
4. **Derive estimates of cost for selected work packages using unit rate techniques.**

Learning and Teaching:

Lectures including where possible delivery by appropriate guests. Web based delivery of course documentation. On-line tutorials and assignment delivery where appropriate. Tutorials may include workshops, group exercises and discussions, with student presentations and peer review.

Topics:

Early price estimation and advice for services and green buildings at inception, concept and design brief stages.Design phase cost management for services and green buildings: Providing early budget breakdown; Procedures for design phase cost management; Monitoring designs and providing progressive advice.The impact of green building attributes on building costs.Use of manual and computer based techniques in quantity surveying practice. Unit rate estimating techniques

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	15 Oct 2013	January 2014		
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS7204:	Measurement and Estimation 4				
Course number:	CONS7204	**Level:**	7	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	Construction Economics major			Compulsory	
Requisites / Restrictions:	Pre-requisites: CONS6202 & CONS6104				
Other programmes:	GDCPM. No Prerequisites.				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
32		118	150

Outcome Statement:

To enable students to be able to prepare estimates and provide professional advice on the cost of building construction.

Learning Outcomes:

1. **Analyse issues of risk and reliability in preparing estimates and offering professional advice on building costs.**
2. **Derive schedules of quantities for complex work packages in accordance with a standard method of measurement.**
3. **Derive estimates of cost for selected work packages using unit rate and operational estimating techniques.**

Learning and Teaching:

Lectures including where possible delivery by appropriate guests. Web based delivery of course documentation. On-line tutorials and assignment delivery where appropriate. Tutorials may include workshops, group exercises and discussions, with student presentations and peer review.

Topics:

The reliability of source data; Assessing future market movements and the impact on prices;Causes of variance between estimates and actual costs;The reliability of prediction of cost at various stages of the design and construction process;Alternative techniques such as stochastic cost modelling;Value management techniques;Earned value analysis;Financial reporting to clients;Measurement of complex shapes;Cut and fill calculations for earth works;Unit rate estimation;Operational and resources based estimation

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	15 Oct 2013	January 2014		
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS7403: Planning and Organisation 3

Course number:	CONS7403	**Level:**	7	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	Construction Management major			Compulsory	
Requisites / Restrictions:	Pre-requisites: CONS6402				
Other programmes:	GDCPM. Prerequisites: CONS6100 & CONS7200.				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
32		118	150

Outcome Statement:

To enable students to critically analyse work sequencing to plan and manage construction work in complicated contexts.

Learning Outcomes:

1. Examine techniques for monitoring progress and taking corrective action
   - Apply progress reporting methods using traditional methods
   - Manage the schedule for acceleration and productivity

2. Examine alternative methods of scheduling and monitoring complex projects
   - Examine alternative methods of scheduling and monitoring
   - Investigate the role of BIM in scheduling and monitoring

3. Evaluate advanced methods of project coordination of complex situations
   - Apply advanced methods to planning and coordination
   - Evaluate the role of BIM for project coordination

4. Develop site quality management systems
   - Plan for inspections, commissioning and handover

Learning and Teaching:

Lectures including where possible delivery by appropriate guests. Web based delivery of course documentation. On-line tutorials and assignment delivery where appropriate. Tutorials may include workshops, group exercises and discussions, with student presentations and peer review.

Topics:

Buildings of more than four stories with multiple partitions, hidden structure a wide range of hidden building services for multiple tenants. Scheduling a complex project (>200 activities); Progress reporting; Accelerating a schedule; Look ahead planning, Time extension claims; Location based management system. Building Information Modelling for scheduling and monitoring and project control. Working around existing and operational facilities. Site quality management systems: Inspection; Commissioning and handover; Soft Landing approaches, Code compliance; Building Warrant of Fitness.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	15 Oct 2013	January 2014		

2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS7404: Planning and Organisation 4

Course number:	CONS7404	**Level:**	7	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):				Compulsory	
Requisites / Restrictions:	Pre-requisites: CONS6402				
Other programmes:	GDCPM. Prerequisites: CONS6100 & CONS7200.				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
32		118	150

Outcome Statement:

To enable students to evaluate the complexity of integrating the conflicting interests and demands, which must be managed on a construction project and to derive project plans while considering all the relevant factors required in the context of complex projects.

Learning Outcomes:

1. **Evaluate production in a construction context**
   - The nature of production in construction projects compared to theory, including traditional models and lean production theory.
   - Scheduling systems which improve productivity.
2. **Develop risk management processes for construction**
   - Methods of identifying and analysing construction risks
   - Methods for managing construction risks
3. **Develop Health and Safety Management Systems for Complex Construction Projects**
   - Health and safety risks
   - Methods for managing health and safety
4. **Develop a holistic management proposal for a selected project.**
   - A construction methodology to enable a highly productive project
   - The use of advanced planning techniques
   - Management proposals to control risks and facilitate high levels of productivity.

Learning and Teaching:

Lectures including where possible delivery by appropriate guests. Web based delivery of course documentation. On-line tutorials and assignment delivery where appropriate. Tutorials may include workshops, group exercises and discussions, with student presentations and peer review.

Topics:

Complex, multi storey, green buildings. The nature of production on construction projects: Traditional models of production; Lean Theory models of production. Production assumptions underlying production modelling methods including CPM (Critical Path Management); PERT (Programme Evaluation and Review Technique); Location-based methods (e.g. Flowline, LOB, RSM). Integration complexity: Method statements. Risk identification, evaluation, and management.

Health and safety policy and procedures of a project including managing the H&S of subcontractors.

Presentation of a method ology report in a tender.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*

1	15 Oct 2013	January 2014		
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS 7418: Integrated Design and Construction Management

Course number:	CONS 7418	**Level:**	7	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	Construction Management major			Compulsory	
Requisites / Restrictions:	Pre-requisites: CONS6817				
Other programmes:	GDCPM. Prerequisite: CONS7200		Elective		
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
32		118	150

Outcome Statement:

To enable students to evaluate the processes for managing integration of the design and construction of commercial and industrial scale projects to achieve client needs, in a collaborative environment.

Learning Outcomes:

1. **Analyse methods for deriving client needs.**
   - Techniques for deriving client needs from briefing to project completion stages.
   - Stakeholder involvement in the design stages.
   - Personnel and product performance criteria for the overall project process.
2. **Analyse the management of the design process**
   - Design and documentation phase activities.
   - Strategies for managing design constraints.
   - The use of integrated design and construction to manage and coordinate design changes and their impacts.
   - Strategies for the performance management of the design and construction teams
   - Design work packages and specialisations at the design and construction delivery stages.
3. **Evaluate the rationale and strategies for integrating design and construction.**
   - How lean construction principles and strategies can inform design management at the design and construction delivery stages of projects.
   - The business reasons for taking a design management approach and associated risk on projects.
4. **Evaluate integrated design and construction performance.**
   - How building information management can inform the integration of design and construction on projects.
   - Techniques for evaluating design and construction performance.

Learning and Teaching:

Lectures including where possible delivery by appropriate guests. Web based delivery of course documentation. On-line tutorials and assignment delivery where appropriate. Tutorials may include workshops, group exercises and discussions, with student presentations and peer review.

Topics:

Deriving the client needs: Briefing techniques (strategic needs analysis, etc.); Stakeholder participation in design; Performance requirements and criteria; Roles of parties; Managing changing client needs. Managing the design process: Engaging consultants; Creativity and achieving desired fitness for purpose. Balancing conflicting design requirements; Designing to restrictions (for example regulatory changes); Design coordination and managing the design of work packages; Managing a design team; Performance systems; Information flow. Integrating design and construction: Design for cost and quality (value); Design for safety; Achieving design requirements economically; Design and build to performance requirements; Using integrated design and construction to manage design changes. Building Consent processes. Project delivery: Stakeholder management; Post-occupancy evaluation; Design and construction performance metrics.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Note: Replaces CONS7816 Design Management

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	15 Oct 2013	January 2014		
2	25 Oct. 2018	January 2019	PIC	Add CONS7200 Project Management Practice as Pre – requisite course to CONS7418
3	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS 7515: People Management

Course number:	CONS 7515	**Level:**	7	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	Construction Management major			Compulsory	
Requisites / Restrictions:	N/A				
Other programmes:	GDCPM. No Requisites				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
32		118	150

Outcome Statement:

To enable students to analyse theories regarding the management of people and interpret those theories into application within the construction industry.

Learning Outcomes:

1. **Evaluate leadership theories.**
   - Theories regarding leadership.
   - How those theories can be applied within the construction industry.
2. **Evaluate people management theories**
   - Theories regarding management of people.
   - How those theories can be applied within the construction industry.
3. **Evaluate theories regarding recruitment, retention and performance management**
   - Theories of recruitment, retention and performance
   - How those theories can be applied within the construction industry.
4. **Analyse the impact of NZ employment law on people management practices**
   - Employment law
   - How employment law impacts on people management practice.

Learning and Teaching:

Lectures including where possible delivery by appropriate guests. Web based delivery of course documentation. On-line tutorials and assignment delivery where appropriate. Tutorials may include workshops, group exercises and discussions, with student presentations and peer review.

Topics:

Leadership theories and their application to a project-based environment. Management of permanent and project-based employees. Management of sub-contractors' employees on a project. Motivation theories including goals setting and performance-based rewards. Corporate and project culture theories. Recruitment, retention, and departure. Succession planning. Permanent and project-based employment. Performance management. Remuneration and rewards. Dealing with non-performing staff including dismissal.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
	15 Oct 2013	**January 2014**		

CONS 7817: Urban Economics

Course number:	CONS 7817	**Level:**	7	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	Property Development major			Compulsory	
Requisites / Restrictions:	Pre-requisites: CONS5812 OR CONS5802				
Other programmes:	GDCPM. No Requisites				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
32		118	150

Outcome Statement:

To enable students to analyse urban development using economic theory as a framework and to use such analysis to evaluate property development markets.

Learning Outcomes:

1. **Examine urban economics theory.**
   - The relationship between government economic policy and urban development
   - Market theories and concepts of efficient markets and economic optimisation
   - The way government can intervene to influence urban development, particularly through regulation
   - Property cycles and the impact of economic cycles on urban development
   - Methods of predicting future trends in property markets
2. **Evaluate different urban development markets.**
   - Patterns of urban development and their relationship to economic theory
   - Markets and sub-markets within the urban development market
   - Urban decay and renewal
   - Planned cities and developments.

Learning and Teaching:

Lectures including where possible delivery by appropriate guests. Web based delivery of course documentation. On-line tutorials and assignment delivery where appropriate. Tutorials may include workshops, group exercises and discussions, with student presentations and peer review.

Topics:

Economic theory: Review fiscal and monetary policy; The relationship of central government economic policies and urban development; Market theories and efficient markets and economic optimisation; Role of national and local governments in overcoming the imperfections of urban development markets; Property cycles and economic cycles that impact on urban economics; Government as a provider of infrastructure.Urban and market analysis: Demographic analysis; Interpreting patterns of urban growth; Market studies; GIS applications to market analysis; Marketability analysis.Property sector analysis: Property sectors; CBD Characteristics; Office, industrial retail; Infrastructure development; Tourism and Leisure.Urban development: Theory of Urban Structure and Growth, decay and renewal; Case studies of planned cities and developments; Planned subdivisions and new urbanism; Regional and local government strategy; Financing and procurement of public infrastructure.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*

	15 Oct 2013	January 2014		Sub-learning outcomes edited. Assessment breakdown changed. Recommended text list amended.
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS 7820:	Professional Business Management				
Course number:	CONS 7820	**Level:**	7	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	Property Development major			Compulsory	
Requisites / Restrictions:	N/A				
Other programmes:	GDCPM. No Requisites				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
32		118	150

Outcome Statement:

To enable students to evaluate the strategic management of consultancy, construction or property businesses, and their business management models and practices.

Learning Outcomes:

1. **Derive business strategies.**
   - Business strategies and the development of a strategic plan for a business opportunity including budgets
   - Marketing strategy and the development of a marketing plan for a business opportunity
2. **Interpret and analyse company financial reports.**
   - Profit and loss reports.
   - Balance sheets.
   - The implications for the future business performance which may be revealed in financial reports
   - Management accounting systems and reports.
3. **Evaluate the ethics of business.**
   - Business ethics and entrepreneurial behaviour
4. **Determine appropriate organisation structures and cultures.**
   - Theories of organisational behaviour.
   - Organisational culture.
   - Knowledge management in organisations.

Learning and Teaching:

Lectures including where possible delivery by appropriate guests. Web based delivery of course documentation. On-line tutorials and assignment delivery where appropriate. Tutorials may include workshops, group exercises and discussions, with student presentations and peer review.

Topics:

Business strategy; Marketing the business; Development of a business plan. Financial reporting: Profit & loss; Balance sheets; Interpret company reports. Management and accounting: Accounting concepts; Reporting systems; Annual budgeting; Cash flow management. Business Ethics: Philosophy of ethical behaviour; Codes of ethics; Entrepreneurial behaviour. Organisation structures and culture: Organisational behaviour theories; Organisational culture; Knowledge management.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*

	15 Oct 2013	**January 2014**		**Sub-learning outcomes edited. Assessment breakdown changed. Topics.Recommended text list amended.**

CONS 7821: Industry Project Part 1

Course number:	CONS 7821	**Level:**	7	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	All majors			Compulsory	
Requisites / Restrictions:	Pre-requisites: 60 credits at Level 7				
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
32		118	150

Outcome Statement:

To enable students to critically examine research literature and write a coherent, clearly structured, properly referenced literature analysis within the context of the property and construction industry.

Learning Outcomes:

1. **Search for, collect and organise information from a wide range of sources into a coherent review of a selected topic.**
2. **Synthesise selected information to arrive at appropriate conclusions and communicate findings in a formal report.**

Learning and Teaching:

Self-directed learning under supervision. Progressive assessment of progress reports and presentations. A final report. An oral presentation of the final report if required.

Topics:

Engaging in research: Types, role and relevance of research in property and construction industry; Identifying research problems; Research topic definition and scope. Reading for research; search techniques, critical reading and evaluation, annotated bibliographies, literature analysis, referencing. Oral presentation; Writing; structured academic reports, abstract writing, constructing an argument.

Assessment:

Assessment	Weighting	Threshold
Coursework	100%	50%

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	15 Oct 2013	January 2014		New course previous 30 credit course split into two 15 credit courses.
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS 7822: Industry Project part 2

Course number:	CONS 7822	**Level:**	7	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):				Compulsory	
Requisites / Restrictions:	Pre-requisites: CONS7821				
Other programmes:					
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
32		118	150

Outcome Statement:

To enable students to critically examine research approaches and conduct research within the context of the property and construction industry.

Learning Outcomes:

1. **Examine different applied research techniques.**
2. **Compose and present a formal research proposal.**
3. **Collect and analyse data and then formulate conclusions and recommendations**
4. **Communicate research results in a professional manner.**

Learning and Teaching:

Self-directed learning under supervision. Progressive assessment of progress reports and presentations. A final report. An oral presentation of the final report if required.

Topics:

Research question definition and scope. Applied research methods: Case study methods; illustrative, exploratory, critical instance, action research; Survey methods; questionnaires, interviews, question design; Ethnographic approaches; observation, fieldwork, phenomenology; Experimental methods; cause & effect, control, variables; Other methods. Research issues: Validity, bias; Reliability, researcher impact; Sampling; Pilot studies; Data management.; Managing and presenting research Ethics of research, ethics approval; Oral presentation; Writing; structured academic reports, abstract writing, constructing an argument.

Assessment:

Assessment	Weighting	Threshold
Coursework	100%	50%

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	15 Oct 2013	January 2014		New course previous 30 credit course split into two 15 credit courses.
2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS 7828: Advanced Construction Law

Course number:	CONS 7828	**Level:**	7	**Credits:**	15
Main programme:	Bachelor of Construction			Elective	
Pathway(s):					
Requisites / Restrictions:	Pre-requisites: CONS5818 & CONS6812				
Other programmes:	GDCPM. No Requisites				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
32		118	150

Outcome Statement:

To enable students to explore current issues and advances in construction law.

Learning Outcomes:

1. Developments in construction law
- New Zealand and international construction law

2 The implications for practice of developments in construction law.

Learning and Teaching:

Lectures including where possible delivery by appropriate guests. Web based delivery of course documentation. On-line tutorials and assignment delivery where appropriate. Tutorials may include workshops, group exercises and discussions, with student presentations and peer review.

Topics:

It is intended that this course will explore current and future developments in Construction Law

There are no prescribed topics

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
	15 Oct 2013	January 2014		
	02/10/2014		FAC	

CONS7905: Property Management

Course number:	CONS7905	**Level:**	7	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	Property Development major			Compulsory	
Requisites / Restrictions:	N/A				
Other programmes:	GDCPM. No Requisites				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
32		118	150

Outcome Statement:

To enable students to understand the issues which apply to the management of property and portfolios of property, including operations, maintenance, strategic asset management, and computer-based systems for building information management.

Learning Outcomes:

1. **Critically examine the management of individual properties.**
   - The role of property managers
   - Calculation of typical operating costs
   - Taxation impacts on facilities management
   - Tenancy management strategies
   - Typical leasing agreements
   - Computer-based property management systems
2. Critically examine the management of Body Corporates
   - The purpose and structure of Body Corporates
   - Establishing and managing Body Corporates
   - Law regarding Body Corporates
3. **Critically examine the management of property portfolios.**
   - Space utilisation models for office space
   - Models of strategic portfolio management
   - Portfolio management software

Learning and Teaching:

Lectures including where possible delivery by appropriate guests. Web based delivery of course documentation. On-line tutorials and assignment delivery where appropriate. Tutorials may include workshops, group exercises and discussions, with student presentations and peer review.

Topics:

Property management: Property management as a profession; Leasing management; Tenancy management; Income and expense analysis; Building maintenance systems; Facilities management; Marketing property and related issues; Performance measurement.

Managing Corporate Real Estate: Buy/lease/develop decisions in corporate environment; Models of space utilisation in office accommodation; Real estate outsourcing; Measuring performance of corporate real estate.

Body Corporates: Purpose and structure, establishment and management, law regarding Body Corporates.

Portfolio management: Strategic portfolio management process; Asset selection and investment management; Typical portfolio management organisations: Retail management, Hotel management, Office management; Financial statement analysis and interpretation; Performance measurement and tracking property indices; Sustainable issues in property management; Use of computer software in property management.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	15 Oct 2013			Sub-learning outcomes edited. Topics updated. Assessment breakdown changed.
2	10/07/2014	January 2015	BConst Prog Comm	Change to Learning Outcome 2

CONS7906:	Property Development				
Course number:	CONS7906	**Level:**	7	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	Property Development major			Compulsory	
Requisites / Restrictions:	Pre-requisites: CONS6906 or CONS6818				
Other programmes:	GDCPM. No Requisites				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
32		118	150

Outcome Statement:

To enable students to evaluate the property development process, using a project-based learning approach, focused through the production of a speculative project development submission.

Learning Outcomes:

1. **Evaluate opportunities for the commercial development of selected sites.**
   - Analysis of a site's development potential
   - Analysis of the market price costs of procuring the site
2. **Derive a detailed development proposal for a selected recipient (such as a client, funding agency, local authority).**
   - Bulk and location studies.
   - Concept design
   - Market and feasibility analysis.
   - Documentation and presentation of a proposal
3. **Develop risk management strategies for property developments.**
   - Identification and evaluation of potential risks
   - Risk management strategies for significant risks.

Learning and Teaching:

Project based learning. Lectures including where possible delivery by appropriate guests. Web based delivery of course documentation. On-line tutorials and assignment delivery where appropriate. Tutorials may include workshops, group exercises and discussions, with student presentations and peer review.

Topics:

Development appraisal: Looking at alternative uses for a site; Looking at alternative sites for a use; Market research and sources of information; Overview of market analysis; Opportunities and restrictions placed by town planning; Opportunities from urban renewal; Opportunities from packages solutions; Planning controls; Working with authorities to maximise benefit; Current issues; Case studies of development proposals.Documenting a proposal: The components of a development proposal; Presentation techniques; Presenting concepts effectively; Satisfying stakeholder objectives; The financial components for a submission; Bidding processes and responding to an EOI or RFT ; Case studies of proposal documentation.Risk Management: Risk analysis techniques; Risk management techniques.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

Learning resources:

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	15 Oct 2013	January 2014		Sub-learning outcomes edited. Recommended Text updated. Assessment breakdown changed.

2	25/01/2021	2021-Sem1	AACSC	Remove Restriction related to inactive courses

CONS7908:	Property Investment				
Course number:	CONS7908	**Level:**	7	**Credits:**	15
Main programme:	Bachelor of Construction				
Pathway(s):	Property Development major			Elective	
Requisites / Restrictions:	Pre-requisites: CONS6906				
Other programmes:	GDCPM. No Requisites				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
32		118	150

Outcome Statement:

To enable students to understand the property investment industry as a customer of the property development industry.

Learning Outcomes:

1. **Examine the structure of the property investment industry.**
   - The range of firms and individuals engaged in property investment.
   - The motivations of property investors.
   - Sources of funding for property investment.
2. **Critically evaluate techniques for the evaluation of property investments proposals**
   - Traditional investment techniques
   - Discounted cash-flow techniques.
3. **Critically analyseproperty investment strategies**
   - Portfolio construction strategies
   - Asset allocation strategies
   - Capital structure decisions.

Learning and Teaching:

Project based learning. Lectures including where possible delivery by appropriate guests. Web based delivery of course documentation. On-line tutorials and assignment delivery where appropriate. Tutorials may include workshops, group exercises and discussions, with student presentations and peer review.

Topics:

Property investment: Property as an investment medium; Property investment vehicles and process; Property investment risks and returns. Investment decision making techniques: Estimating investment cash flows; Allowing for risk in the cash flows; Making investment decisions using traditional investment criteria; Discounted cash flow techniques; Estimating relevant discount rates; Addressing uncertainty in DCF models; Market effects on property investment decisions; Computer software for property investment analysis. Capital structure decisions: Alternative sources of investment financing; Equity and debt financing; Real estate securitised debt markets; Capital structure theory and cost of capital; Managing financing risks. Portfolio construction: Developing a portfolio strategy; Construction of an optimal portfolio; Portfolio risk and return; Value enhancement and diversification strategies; Asset allocation strategies; Property in a mixed-asset portfolio; Issues in property portfolio analysis.

Assessment:

Assessment	Weighting	Threshold
Coursework	70%	
Examination	30%	40%

A minimum mark of 40% is required in the examination to pass the course

REQUIRED TEXTS

Nil. Refer to readings on or accessed through Moodle

LEARNING RESOURCES

As recommended via the Course Management System, such as Moodle

Version Tracking:

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*

1	15 Oct 2013	January 2014		
2	01/02/2021 25/01/2021	2021-Sem1	NZQA AACSC	Change from Compulsory to Elective Remove Restriction related to inactive courses

CONS6101 Building Performance

Course number:	CONS6101	**Level:**	6	**Credits:**	150
Main programme:	Bachelor of Construction				
Pathway(s):	*All majors*			*Elective*	
Requisites / Restrictions:	*Prerequisites: CONS 5103 AND 5106* *Co-requisites: Nil*				
Other programmes:	GDip Construction Project Management. No prerequisites				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48	0	102	150

Course aim

To further develop knowledge and understanding of the science and technology, and the principles and practice, relating to high performance building design and construction

Learning Outcomes

On successful completion of this course the student will be able to:

1. Understand and apply the main science and technologies affecting good building performance
2. Evaluate the design and construction of high performance buildings
3. Critically examine systems for the evaluation of building performance

Indicative Content

Principles of building information modelling: overview of building information modelling – including compilation, maintenance and use of BIM data; risks/opportunities/ constraints; design solutions.
Assessment and application of building information modelling data: identification of stakeholder/user /community requirements.
Development of design solutions: documentation and modelling methods, organisational and project applications. Project design recommendations and agreement

Assessment

No.	Assessment Type	Pass criteria	Weighting	Outcome assessed
	Portfolio of Evidence	Overall Grade C- to A+	See notes	All LOs

Unless otherwise indicated above, the weighting of the overall assessment is equally distributed across learning outcomes. A variety of assessment tasks may be used to ensure that all learning outcomes are adequately demonstrated to achieve the graduate profile of the qualification.
The contents of students' portfolios may typically include evidence of achievement from assignments, projects, tests, exams, formative assessments, peer assessments, self and group assessments.
Assessment judgements are guided by the aim statement of the course descriptor, by internal and external moderation, by the assessment policy and practice of Unitec, and by level-related criteria published by NZQA.

Learning and teaching

The learning and teaching for the course may use a variety of models They may include on-campus, on-line, work-based, independent, and blended learning.
Learning activities for topics may typically include practical/workshop/lab sessions, lectures, tutorials, field trips, group work, visiting specialists, computer emulations, web technologies, and self-directed learning

Learning resources

Recommended texts, industry documents, websites and other resources as published by the learning management system for the course.

Summary of Changes

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	**01/02/2021**	**2021-Sem2**	**NZQA**	**New Elective Course**

CONS6102 Virtual Design and Construction 1

Course number:	CONS6101	**Level:**	6	**Credits:**	150
Main programme:	Bachelor of Construction				
Pathway(s):				*Elective*	
Requisites / Restrictions:	Prerequisites: CONS5103				
Other programmes:	GDip Construction Project Management. No prerequisites				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48	0	102	150

Course aim

To enable the student to develop introductory skills and knowledge of the principles of building information modelling (BIM) to establish design solutions.

Learning Outcomes

On successful completion of this course the student will be able to:

1. Describe the principles of building information modelling
2. Interpret, assess and apply building information modelling data
3. Understand the processes for the development and integration of design solutions

Indicative Content

Principles of building information modelling: overview of building information modelling – including compilation, maintenance and use of BIM data; risks/opportunities/ constraints; design solutions.
Assessment and application of building information modelling data: identification of stakeholder/user /community requirements.
Development of design solutions: documentation and modelling methods, organisational and project applications, Project design recommendations and agreement

NOTE: This course is based on the course of the same name in the NZ Diploma in Architectural Technology, which is an acceptable cross-credit. In this course Learning Outcome 3 is modified allows Bachelor pathway students to develop some practical skills sufficient for the purposes of 'understanding' in the learning outcome.

Assessment

No.	Assessment Type	Pass criteria	Weighting	Outcome assessed
	Portfolio of Evidence	Overall Grade C- to A+	See notes	All LOs

Unless otherwise indicated above, the weighting of the overall assessment is equally distributed across learning outcomes. A variety of assessment tasks may be used to ensure that all learning outcomes are adequately demonstrated to achieve the graduate profile of the qualification.
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Learning and teaching

The learning and teaching for the course may use a variety of models They may include on-campus, on-line, work-based, independent, and blended learning.
Learning activities for topics may typically include practical/workshop/lab sessions, lectures, tutorials, field trips, group work, visiting specialists, computer emulations, web technologies, and self-directed learning

Learning resources

Recommended texts, industry documents, websites and other resources as published by the learning management system for the course.

Summary of Changes

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	**01/02/2021**	**2021-Sem2**	**NZQA**	**New Elective Course**

CONS7111 Building Pathology

Course number:	CONS7111	**Level:**	7	**Credits:**	150
Main programme:	Bachelor of Construction				
Pathway(s):	*All majors*			*Elective*	
Requisites / Restrictions:	*Prerequisites: CONS 5103 AND 5106*				
Other programmes:	GDip Construction Project Management. No prerequisites				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48	0	102	150

Course aim

To develop critical knowledge and understanding of building defects and performance in order to develop appropriate remedial and management solutions.

Learning Outcomes

On successful completion of this course the student will be able to:

1. Evaluate the nature of defects, damage and decay in buildings
2. Evaluate the principles and techniques for the survey and assessment of buildings
3. Critically exam the principles, techniques and management of building remediation

Indicative Content

Defects, damage and decay: concepts and definitions; atmospheric and climatic actions, moisture actions; physical, chemical and biological actions; movement; fire effects; human effects.
Survey and assessment: building inspections and surveys; non-destructive survey techniques; severity and assessment of defects; prioritising remedial works
Building remediation: principles into practice, building management and aftercare, case studies

Assessment

No.	Assessment Type	Pass criteria	Weighting	Outcome assessed
	Portfolio of Evidence	Overall Grade C- to A+	See notes	All LOs

Unless otherwise indicated above, the weighting of the overall assessment is equally distributed across learning outcomes. A variety of assessment tasks may be used to ensure that all learning outcomes are adequately demonstrated to achieve the graduate profile of the qualification.
The contents of students' portfolios may typically include evidence of achievement from assignments, projects, tests, exams, formative assessments, peer assessments, self and group assessments.
Assessment judgements are guided by the aim statement of the course descriptor, by internal and external moderation, by the assessment policy and practice of Unitec, and by level-related criteria published by NZQA.

Learning and teaching

The learning and teaching for the course may use a variety of models They may include on-campus, on-line, work-based, independent, and blended learning.
Learning activities for topics may typically include practical/workshop/lab sessions, lectures, tutorials, field trips, group work, visiting specialists, computer emulations, web technologies, and self-directed learning

Learning resources

Recommended texts, industry documents, websites and other resources as published by the learning management system for the course.

Summary of Changes

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	**01/02/2021**	**2021-Sem2**	**NZQA**	**New Elective Course**

CONS7112	Virtual Design and Construction 2					
Course number:	CONS7112	**Level:**	7	**Credits:**	150	
Main programme:	Bachelor of Construction					
Pathway(s):	*All majors*			*Elective*		
Requisites / Restrictions:	*Recommended Prerequisites: CONS6102*					
Other programmes:	GDip Construction Project Management. No prerequisites					
NZSCED field of Study:	040301	**Delivery mode:**	Blended			

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48	0	102	150

Course aim

To further develop knowledge of the principles and applications of VDC/BIM and its management

Learning Outcomes

On successful completion of this course the student will be able to:

1. Investigate selected advanced technologies or techniques in VDC/BIM and evaluate their applications in the design, construction and management of buildings.
2. Critically examine aspects of standards, regulations, and industry economics as they relate to VDC/BIM.
3. Investigate and critically evaluate interactions between VDC/BIM principles and industry roles and working methods.

Indicative Content

Advanced modelling- including sustainable design solutions, historic and heritage assets, health and safety, data maintenance, sharing data, cloud services, data drops.
Guidelines, standards and protocols. Contextual factors, resources, regulatory and legal factors affecting potential developments, whole life and capital costs, value proposition, investment and return.
BIM roles and structures, team creation, collaboration, federation of models.

Assessment

No.	Assessment Type	Pass criteria	Weighting	Outcome assessed
	Portfolio of Evidence	Overall Grade C- to A+	See notes	All LOs

Unless otherwise indicated above, the weighting of the overall assessment is equally distributed across learning outcomes. A variety of assessment tasks may be used to ensure that all learning outcomes are adequately demonstrated to achieve the graduate profile of the qualification.
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Assessment judgements are guided by the aim statement of the course descriptor, by internal and external moderation, by the assessment policy and practice of Unitec, and by level-related criteria published by NZQA.

Learning and teaching

The learning and teaching for the course may use a variety of models They may include on-campus, on-line, work-based, independent, and blended learning.
Learning activities for topics may typically include practical/workshop/lab sessions, lectures, tutorials, field trips, group work, visiting specialists, computer emulations, web technologies, and self-directed learning

Learning resources

Recommended texts, industry documents, websites and other resources as published by the learning management system for the course.

Summary of Changes

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	**01/02/2021**	**2021-Sem2**	**NZQA**	**New Elective Course**

CONS7105 Advanced Construction Technology

Course number:	CONS7105	**Level:**	7	**Credits:**	150
Main programme:	Bachelor of Construction				
Pathway(s):	*All majors*			*Elective*	
Requisites / Restrictions:	*Prerequisites: CONS6104, CONS6402*				
Other programmes:	GDip Construction Project Management. No prerequisites				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48	0	102	150

Course aim

To enable students to explore issues of advanced construction technology.

Learning Outcomes

On successful completion of this course the student will be able to:

1. Evaluate selected construction technology developments where advances are being made in construction materials and systems, and where advances are being made in assembly techniques.
2. Critically examine, in terms of benefits, the application of an advanced construction technology to a national construction industry.

Indicative Content

There are no prescribed topics.

It is intended that this course will explore current and potential future developments in construction technology. As an example: potential solutions to the problems of bringing existing buildings up to required seismic standards could be investigated. Other topics could be factory made/assembled packages, digital fabrication, Robotic manufacture and construction; Intelligent buildings, automatic condition monitoring, virtual reality in construction.

Assessment

No.	Assessment Type	Pass criteria	Weighting	Outcome assessed
	Portfolio of Evidence	Overall Grade C- to A+	See notes	All LOs

Unless otherwise indicated above, the weighting of the overall assessment is equally distributed across learning outcomes. A variety of assessment tasks may be used to ensure that all learning outcomes are adequately demonstrated to achieve the graduate profile of the qualification.

The contents of students' portfolios may typically include evidence of achievement from assignments, projects, tests, exams, formative assessments, peer assessments, self and group assessments.

Assessment judgements are guided by the aim statement of the course descriptor, by internal and external moderation, by the assessment policy and practice of Unitec, and by level-related criteria published by NZQA.

Learning and teaching

The learning and teaching for the course may use a variety of models They may include on-campus, on-line, work-based, independent, and blended learning.

Learning activities for topics may typically include practical/workshop/lab sessions, lectures, tutorials, field trips, group work, visiting specialists, computer emulations, web technologies, and self-directed learning

Learning resources

Recommended texts, industry documents, websites and other resources as published by the learning management system for the course.

Summary of Changes

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	**01/02/2021**	**2021-Sem2**	**NZQA**	**New Elective Course**

CONS7113 Technologies in Practice

Course number:	CONS7113	**Level:**	7	**Credits:**	150
Main programme:	Bachelor of Construction				
Pathway(s):	*All majors*			*Elective*	
Requisites / Restrictions:	*Prerequisites: 6104, 6402*				
Other programmes:	GDip Construction Project Management. No prerequisites				
NZSCED field of Study:	040301	**Delivery mode:**	Blended		

Hours directed:	Hours in the Workplace:	Hours Self-directed:	Total Learning Hours:
48	0	102	150

Course aim

To explore a negotiated topic in modern technologies used in the design, construction and lifetime management of buildings.

Learning Outcomes

On successful completion of this course the student will be able to:

1. Critically examine issues relating to the chosen topic
2. Communicate findings of the chosen topic

There are no prescribed topics in this course. The student will propose a technology topic for further study in negotiated with an appointed supervisor prior to beginning the study.
Some students might explore, in a level 7 context, further aspects of topics they have previously studied. The scope is wider than, but does not exclude, the construction technologies associated with making buildings. It is expected that topics might be found within the broad areas of building design, building materials, construction of building, commissioning, facilities management over life, demolition and disposal. The use of modern technologies does not exclude a topic with historical perspective.

Assessment

No.	Assessment Type	Pass criteria	Weighting	Outcome assessed
	Portfolio of Evidence	Overall Grade C- to A+	See notes	All LOs

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Learning and teaching

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Learning activities for topics may typically include practical/workshop/lab sessions, lectures, tutorials, field trips, group work, visiting specialists, computer emulations, web technologies, and self-directed learning

Learning resources

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Summary of Changes

Version No.	*Date of Change*	*Effective from*	*Approved by*	*Description of change*
1	**01/02/2021**	**2021-Sem2**	**NZQA**	**New Elective Course**