MA4000

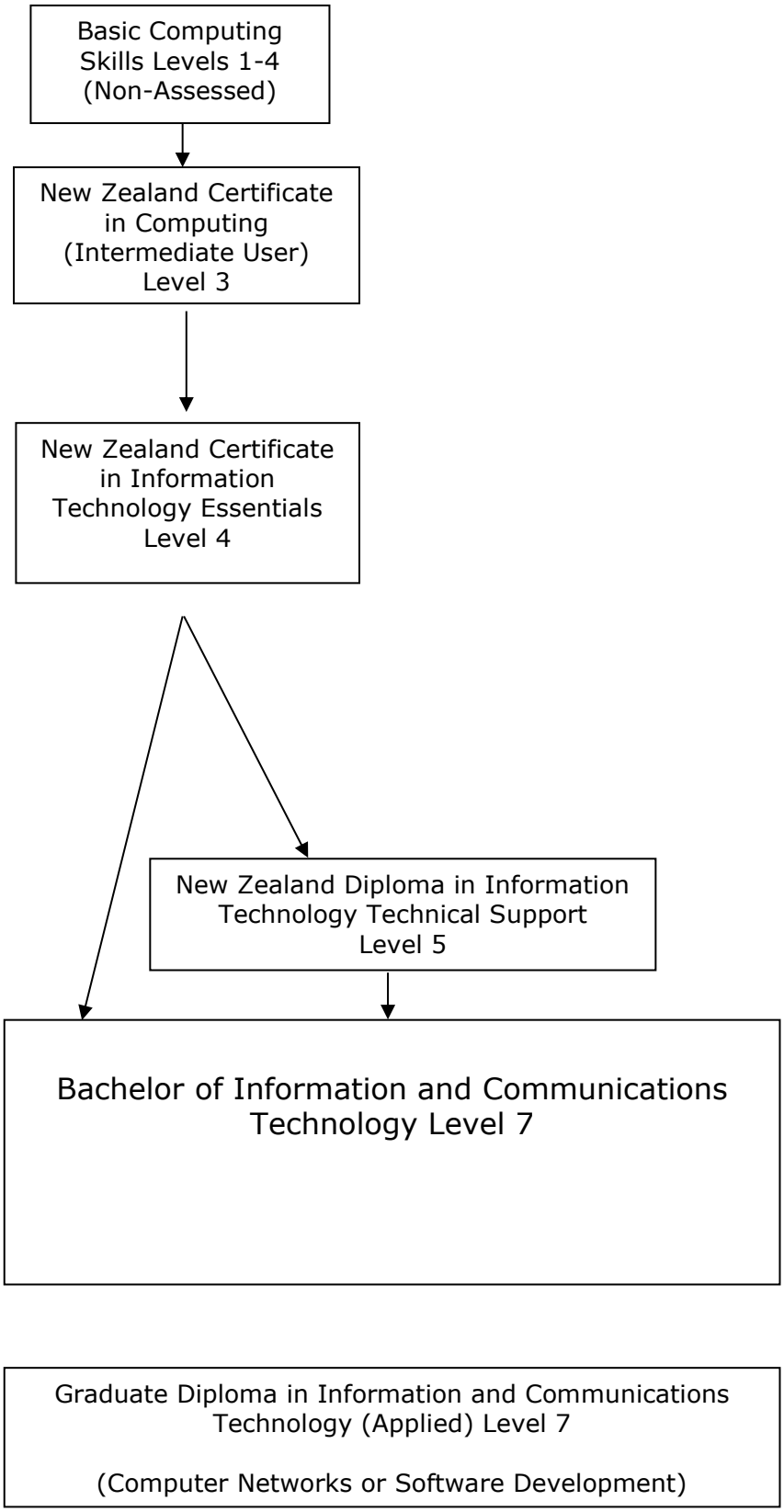
BACHELOR OF INFORMATION AND COMMUNICATIONS TECHNOLOGY LEVEL 7

2020

Faculty of Humanities and Business

PATHWAYS DIAGRAM

School of Business and Computing Programmes



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1.0 PROGRAMME OVERVIEW

1.1 Title Level and Credit Value of Programme

The Bachelor of Information and Communications Technology (BICT) , Level 7 comprises 360 credits.

1.2 Programme Philosophy and Aim

UCOL offers the BICT, Level 7 programme within the Faculty of Humanities and Business.

The degree is designed to prepare graduates for employment in the Information Systems industry, and provide the skills and abilities to enable them to continue their own learning and development and to embark on post-graduate studies.

An important aspect of the degree programme is its vocational focus. One of the aims of the programme is to provide graduates with the skills and abilities required by industry. To this end many staff teaching within the programme have strong industry backgrounds, and strong links are formed with the local industry through the Stakeholder Advisory Committee.

The main impact on the students of this industry focus is the requirement in most courses to apply theory in practice. Courses include the introduction of concepts and principles and will generally provide the opportunity to apply and experiment with these in a practical situation. Assessments are selected to reflect work that is required in industry. This culminates in the industry-based project undertaken in the third year which is intrinsic to their area of specialisation.

This focus is also reflected in the name of the degree: Bachelor of Information and Communications Technology.

Within this programme, technology issues are separated into those which address the technology itself (Technology courses) and those which relate more specifically to the development of Computerised Information Systems (Software Development courses).

The Levels (5, 6, 7) in BICT each have a different focus. Each level aspires to different outcomes:

Level	Focus
5	Proficiency in tools (and methods)
6	Theoretical foundation
7	Philosophy and specialisation

The three levels form a framework for student learning. Students are assumed to have no knowledge at the start, and to be proficient professionals at the end. Each level introduces new challenges, which build on earlier work. The purpose of the framework is to give the students relatively small steps to attain at any one time, while maintaining the ultimate goal of Level 7. The framework is a guide to staff on how small/big each step should be.

The programme as a whole aspires to work at Level 7. The framework provides a path to get there.

The programme structure has been designed to ensure:

- a systematic and coherent introduction to a body of knowledge
- programme content is progressively developed to a level needed to pursue a career in information systems or commence graduate programmes with confidence
- there are components from a variety of subject areas to provide the broad academic foundation needed to pursue a career or commence graduate programmes in information systems

The general topics are taught as basic concepts, ie, a generic approach to the subject matter. Case studies are used to assist the students in making links from the general to the industry specific application of the content. This is important to ensure that the students gain general skills and knowledge and develop the ability to apply this information and the processes inherent in the courses to the industry specific setting.

There are three main topic threads in the programme. These are:

- **Information Management:**
  Studies the way in which information systems are planned, implemented, utilised and managed within organisations. It examines organisational culture, structure, and resources to formulate change management approaches used during system implementation.

  Majors available in this thread are: Business & Systems Analysis; Project Management.
- **Technology:**
  Focuses on the computer and network technologies currently used in industry. Topics include computer and network hardware, network protocols, operating systems and security. Concepts are reinforced with extensive practical experience.

  Majors available in this thread are: Network Engineering; Security; Systems Administration.
- **Software Development:**
  Focuses on the methods and tools used in Software Development. Students design and construct software, utilising tools and processes to ensure quality. The emphasis is on using tools and development methods currently used in industry providing students with relevant experience and making them work ready.
  Majors available in this thread are: Data Management & Analytics; Software Engineering; Web & Mobile Development.

Student progress in cognitive ability:
Increasingly higher levels of cognitive ability are required in the programme. At level 5 students are expected to understand principles and be able to apply relevant theories. At level 6 students must be able to analyse information and integrate information from separate sources. At the level 7 students are expected to critically evaluate information, with reference to relevant theories. Also at level 7 students are expected to demonstrate an appropriate attitude for a professional in the discipline.

1.4 Outcome Statement

1.4.1 Graduate Profile

The following aims and associated objectives have been identified for BICT graduate.

BICT graduates will develop a range of skills over the course of the programme, including the ability to:

- Demonstrate advanced specialist technical expertise in a given area of focus including:
  - Software Engineering
  - Web & Mobile Development
  - Data Management & Analytics
  - Systems & Business Analysis
  - Project Management
  - Network Engineering
  - Systems Administration
  - Security
- Demonstrate application of stakeholder engagement and management skills within the ICT industry
- Apply professional and ethical communication and practice within a specific area of the ICT industry
- Critically analyse an ICT problem domain and recommend and/or implement appropriate solutions.
- Demonstrate and apply project management skills relating to the ICT industry
- Exercise self-direction and independent learning practices
- Work effectively within group based settings

1.4.2 Learner Profile

The following aims and associated objectives have been identified for BICT Learners.

BICT learners will develop a range of skills over the course of the programme with each year meeting a specific profile.

BICT Year One profile:

- Demonstrate and apply broad operational knowledge and understanding of a range of fundamental information and communications technology technical areas including:
  - Programming
  - Web Development
  - Databases
  - Information Systems
  - Technical Support
  - Networking
  - Computer Hardware
  - Systems Analysis
- Demonstrate and apply broad operational knowledge and understanding of a range fundamental skills relating to professionalism, communication, and self-management.

BICT Year Two profile (includes all year one outcomes):

- Demonstrate and apply project management skills relating to the ICT industry
- Apply and demonstrate technical proficiency in one or more general ICT areas including: Development, Information Management, and Infrastructure Technology
- Exercise self-direction and independent learning practices
- Work effectively within group based setting
- Demonstrate an organised approach to problem solving

BICT Year Three Graduate profile (includes year one and two outcomes):

- Demonstrate advanced specialist technical expertise in a given area of focus including:

- Software Engineering
- Web & Mobile Development
- Data Management & Analytics
- Systems & Business Analysis
- Project Management
- Network Engineering
- Systems Administration
- Security

- Demonstrate application of stakeholder engagement and management skills within the ICT industry
- Apply professional and ethical communication and practice within a specific area of the ICT industry
- Critically analyse an ICT problem domain and recommend and/or implement appropriate solutions.

1.4.3 Education Pathway

Graduates may choose to enrol in further study such as A Masters degree in information technology or analytics (not delivered by UCOL).

1.4.4 Employment Pathway

Graduates have the opportunity to move into employment within the Information Systems Industry.

It is a feature of the New Zealand industry that there is a large number of small companies each employing a relatively small number of Information Systems professionals. A consequence of this is that the professionals need a broad and practical knowledge of Information Systems and the business environment. It is important that the Information Systems professional is able to relate and communicate effectively.

1.5 Target Market

- Current UCOL students moving to a higher level of study
- School leavers
- Those currently working in the IT industry
- Those seeking a change of career

1.6 Advice and Guidance

Bachelor of Information and Communications Technology

Students may select a major from those available or complete the qualification without a major. The Industry Project must be completed with the area for the major as the focus. The degree title will have the major included after it, i.e. Bachelor of Information and Communications Technology (Security).

Double Major

A double major may be completed when a student completes the courses for another major in lieu of elective courses. In this instance, the Industry Project must cover both disciplines represented by the majors. The degree title will have both the majors included after it, e.g. Bachelor of Information and Communications Technology (Project Management and Security).

Unendorsed

The Bachelor of Information and Communications Technology has accreditation and approval for an unendorsed award. In this instance a student has the ability to pull together a cohesive group of courses with a relevant outcome focus for them.

Electives

The elective credits allow students to complement the core courses specific to the degree, and compulsory courses in a major, with courses of their choice thus allowing time to further enhance their future career or personal goals.

Industry Project
The Industry Project is completed in the final semester of study and typically takes the form of an industry based project or internship. Students will reflect on their learning experience in this setting and prepare for full-time work through professional practice components completed prior and during the work-integrated learning experience. Their performance will be monitored and remedial processes will be implemented where necessary.

1.7 Rationale for Programme

The BICT programme has been offered since 1993. It continues to attract high enrolment numbers and positive feedback from industry representatives. The programme:

- Provides a degree, which is recognised nationally and internationally.
- Provides sufficient breadth and depth of majors and subject areas to provide the academic and practical foundations needed to pursue a career or graduate programmes with confidence.
- Sets a high standard for entry into the New Zealand Information Systems profession.
- Promotes critical thinking and develops the powers of reasoning, expression, practical application, and independent thought in individual students. These skills are applied in an integrated way throughout the programme.
- Develops research skills appropriate to each subject and level in the programme.
- Uses the principles of achievement-based education.
- Provides multiple entry points and ensures that suitable exit arrangement exist for students who are unable to, or do not wish to complete the programme.
- Promotes interplay between theory and practice.

1.8 Mode of Delivery

The programme emphasises independent learning and, to support this, a blended delivery mode is applied. To facilitate this, a number of learning resources are available for the students. The learning resources available for a particular course will be appropriate to the objectives of that course.

Independent learning incorporates those activities for which the student is required to take responsibility. The activities are student-centred in nature and committed to the acquisition of new knowledge/information as well as studying, revising and gathering and co-ordinating newly acquired information.

Specifically, a student will be engaged in the following activities:

- Preparing for lecturer directed learning sessions and peer group sessions
- Revising and studying previously presented material
- Researching and documenting new information
- Preparing assessment work, both formative and summative.

Students will develop their independent learning skills as they progress through the programme. However, students will be expected to take responsibility for their learning from the outset.

The main learning resources are detailed below.

Orientation
During the first week of the programme students are provided with an overview of the programme content, which includes learning techniques, styles, ergonomics, study skills and time management skills.

Lecture
The primary focus of this activity is to introduce new material and to set the basis for further independent study. These will often be delivered to large groups of students. These sessions may include the completion of exercises. These sessions are course specific.

Laboratory
These sessions will be conducted in a computer laboratory. The primary focus of this activity is to develop the practical skills based on material introduced in the theory sessions. These sessions will include the completion of set exercises. A Lecturer facilitates the session. These sessions will involve small groups of students. These sessions are course specific.

Tutorial
These sessions will be conducted in a computer laboratory. The primary focus of this activity is to apply material introduced in the theory sessions. These sessions will include the completion of exercises. A Lecturer facilitates the session. These sessions will involve small groups of students and these sessions are not course specific.

Resource-based Material
To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

Library
All courses have both required and recommended reading material. Students will use texts and other books, journals, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

Learning Support
UCOL's learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access all possible assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

Consultations between students and tutorial staff
Each lecturer is available for consultation with individual students. The primary focus of this activity is to cooperatively review the students' approach to independent learning. This would be undertaken for a subject topic with which the student has experienced difficulty. Students are encouraged to take

advantage of this opportunity only when they have made a serious attempt at working through an independent study routine. Consultation may be face to face or online.

1.9 Potential Delivery Sites

The programme can be delivered at sites that have gained the necessary approvals.

1.10 Programme Approval

NZQA approved the Programme of Study for Manawatū Polytechnic from 1 December 1993

For a complete list of approved changes see Section 5.2

1.11 Staffing Requirements

- Staff should have a tertiary qualification relevant to their specialist subject at a level higher than that which they are teaching. Staff without a postgraduate qualification are encouraged to be working towards one.
- All staff must have, or be working towards, a tertiary teaching qualification appropriate to their position as per UCOL policy.
- Lecturers teaching on T210 and T220 must be an approved CISCO Academy Instructor.

1.11.1 Research Requirements for Staff Teaching on Degree Programmes

The majority of staff involved in a substantial amount of degree teaching is expected to be actively involved in research. Refer to the Research Strategy 2002-2006.

The programme is structured to provide a progression through a coherent body of knowledge. A student must acquire 360 credits to attain BICT (Applied). Each year full time students are expected to take 120 credits worth of courses.

1.12 Practicum or Work Experience Hours

There are no compulsory practicum or work experience hours for this programme. Students may undertake an optional I209 Industry Placement 15 credit course during their second year of study. Enrolment into this course is approved on a case by case basis by the Head of School and is subject to availability. Students undertake an industry-based project (I302 Industry Project) of 435 hours which are included under Independent Learning Hours in Table 2.9.

Project Entry Criteria:
If the prerequisite credits and courses are not achieved by the commencement date of the project in Semester Two, the student may apply in writing to the Dean of the Faculty to have fees transferred to other Semester Two courses in the same academic year.

Identification and allocation of projects:
Students who enrol in I302 (Industry Project) are responsible for sourcing their own projects prior to the commencement date. The I301 (Professional Practice) course is intended to provide students with guidance to help them with this process and some time may be made available during the first semester prior to the commencement of the projects for students to source a suitable project.

Each project must be approved by the Programmes Committee *before* a student can undertake the project. Students must prepare their own documentation providing sufficient detail on the project scope to allow the Programmes Committee to understand what the project will involve. The Programmes Committee may decline prospective projects due to a variety of reasons eg, an inappropriate level of complexity, insufficient content or a conflict of interest. The reasons for the decline of any projects will be communicated to the student.

If a student has sourced a project they are deemed to have made a commitment to that project. If a project cannot proceed due to circumstances beyond the student's control, either before it begins or during the project timeframe, then the student will receive some assistance to help them secure a new project or to complete a modified project. This will be negotiated with the student on a case-by-case basis and the Head of School must be notified in writing by the student as soon as they become aware of a problem.

Tutorial hours:
The student will meet with the academic supervisor for up to one hour per week, or by negotiation with the academic supervisor. This meeting ensures that the project is progressing in accordance with the prescribed milestones and enables discussion of any issues/problems that may arise. The student is responsible for any extra learning that is required to complete the project.

Management of the project:
The overall management of the project is the responsibility of the student, who must keep all parties informed of any issues that arise that may affect the outcome of the project. This includes regular meetings with the project sponsor.

Assessment:
The industry-based project will be documented as required by UCOL policy and procedures for off-site practical work-based components.

1.13 Health and Safety

Health and Safety information is included in the student handbook. The handbook is revised annually and issued to all students at the start of the programme.

Students may engage in educational visits that are related to the learning outcomes of the programme. When educational visits occur, students are specifically briefed with regard to their responsibility for their own health and safety and the health and safety of those around them in the context of the learning activity. All off-campus learning activities are conducted in accordance with UCOL policies and procedures.

See UCOL policies related to Health and Safety.

2.0 PROGRAMME REGULATIONS

2.1 Requirements for the Award of this Qualification

The Bachelor of Information and Communications Technology will be awarded to all students who successfully complete all relevant credits (identified in Table 2.14). The award title will include the named major, and double major if appropriate, except where a student has undertaken an alternative coherent sequence of courses in lieu of a major, i.e. unendorsed, when there will be no named major included in the title.

A student must acquire 360 credits to attain the Bachelor of Information and Communications Technology, Level 7 programme.

If a student decides not to complete the 360 credits necessary to obtain the degree there are three other exit points. Refer to 2.6 Entry and Exit Points.

To meet the requirements for the degree, students must gain a minimum number of credits at each level. For students who enrolled for the degree in 2008 and after, these are:

Level	Minimum credits	Comments
5	120	These are the compulsory Level 5 courses as specified in Table 1.11
6	120	Of these 15 credits relate to the compulsory Level 6 courses and the balance to optional/elective courses as specified in Table 1.11
7	120	Of these 60 credits relate to the compulsory Level 7 courses and the balance to optional/elective courses as specified in Table 1.11

Note: *See 2.8 'Transition Plan' for credits required for students who enrolled prior to 2008.*

All Level 5 courses and one Level 6 course in the programme are compulsory for the degree. These are available to students in their first two years.

Part-time students can accumulate credits for the degree over time. If for some reason a student is unable to complete the full programme credit can still be given for the completed courses.

Academic Records will be issued at the end of the academic year to all students who have gained credits.

Students who do not officially withdraw from the programme will be considered to have a current enrolment and will be recorded as having an incomplete result. In this instance, the student may be ineligible for student allowances if they subsequently re-enrol. Except in exceptional circumstances, as approved by the Faculty Board of Educational Improvement, students formally withdrawing after ten weeks of the start of a course will incur an academic penalty, ie, a 'fail' or 'incomplete' result.

2.1.1 Compulsory Academic Requirements

Not applicable.

2.2 Length of Programme

The Bachelor of Information and Communications Technology is a 3-year (full time) programme consisting of 34 tuition weeks and 7 holiday weeks per annum which is divided into 2 semesters of 17 weeks each. The programme requires the successful completion of 360 credits and in each year students are expected to complete 120 credits. However, the programme is able to be completed on a part-time basis.

Students may commence their enrolment in either Semester One or Semester Two.

2.3 Variance from UCOL Statute

Regulations for this programme are consistent with those outlined in UCOL's UCOL Academic Statute.

2.4 Entry Requirements

Under 20 years of age applicants:

Applicants under the age of 20 years must have University Entrance

OR
Equivalent academic achievement
OR
On a case-by-case basis at the discretion of the Executive Dean
OR
Provisional enrolment

Note:
Provisional enrolment is defined by NZQA as being Discretionary Entrance and includes the following clauses:

Discretionary enrolment may be granted to those applicants under the age of 20 who:

- Are New Zealand or Australian citizens and permanent residents under 20 years of age
- Must have a minimum of 14 credits in an approved subject at Level 2 towards NCEA
- Must also have met the literacy and numeracy standards required for University Entrance

Places are available to international students on a full fee basis. The minimum entry requirement for international students is IELTS Academic score of 6 with no band score lower than 5.5 (or equivalent including TOEFL). UCOL is a TOEFL iBT testing centre. IELTS scores used must be taken from a single IELTS Test Report Form (i.e. combining scores from more than one test is not permissible).

2.5 Selection Criteria

In order of receipt of completed enrolment.

2.6 Entry and Exit Points

Refer also to Sections 2.3, 2.4, 2.5 and 2.8 for entry points.

It is expected that full-time students will enter the programme at the beginning and complete each full year of study before progressing to the next level.

Students who successfully complete at least one course will be issued with a UCOL Academic Record showing the results of all courses in which they enrolled in the current academic year.

Students choosing to exit the degree programme before completion may be eligible for other qualifications offered by UCOL. Refer to Section 2.1 for exit award details.

Exit qualifications are not available to students who continue with their BICT enrolment and complete the degree.

Students failing a year one prerequisite course may continue with a subsequent first year course that year. The continued study will be on the understanding that no additional 'catch up' tuition will be provided for material missed in the prerequisite. If the subsequent year one course is passed, students cannot achieve the year one prerequisite by RPL and cannot progress to a higher level course which requires that year one identified prerequisite.

Re-enrolling in a Course
If a student has failed a course they may enrol in a course for a second time without any penalty. However, if they fail that course twice they must apply in writing to the Programme Committee to be permitted to take the course a third time. If a student fails a course a third time, they cannot re-enrol in that course. The written application will require some plan of how the student will manage a successful outcome. The Programme Committee will consider each application and advise the student of the outcome of the application.

Note: This regulation applies to all students enrolling in the degree for the first time from 2002 onwards. For students enrolled in the degree prior to 2002, the regulation applies only to courses they enrol in for the first time from Semester 2, 2002 onwards. *See Section 2.8 'Transition Plan'.*

2.7 Recognition of Prior Learning (RPL)

Recognition of Prior Learning (RPL) acknowledges what students have learned from other programmes and qualifications, life experiences, work experiences, training programmes and workshops and measures it against the requirements of the programme.

Students may apply (on the appropriate form) for RPL for any whole course(s) where they believe they can demonstrate specified competencies. These are evaluated on a case-by-case basis in accordance with the current UCOL Academic Statute and any relevant policies and procedures.

Generally, up to two thirds of the qualification may be credited via RPL. In exceptional circumstances, this may be extended by the Faculty Board of Educational Improvement.

2.7.1 Unspecified Credits

Up to 75 credits can be transferred as unspecified credits into this programme from any other completed degree programme in a related discipline. Up to 45 of these can be level 6 credits.

No more than 30 unspecified credits can be substituted for level 7 BICT courses. Unspecified credits cannot be substituted for compulsory courses in the BICT degree.

These credits can only be uplifted when exiting with the BICT degree and cannot be applied to other exit points from the degree.

Students who choose to transfer unspecified credits to the programme, may not take up elective courses from outside the degree programme.

Note: This regulation applies only to students enrolling for the first time from 2002 onwards. Refer to Section 2.8 'Transition Plan'.

2.8 Transition Plan

From 2018, students must enrol in and be bound by these regulations for the Bachelor of Information and Communications Technology degree.

Alternative transition arrangements for individual students, if required, are at the discretion of the Programme Leader.

2.9 Table Showing Programme Structure

Refer to following page.

Table 2.9 Showing Programme Structure: Bachelor of Information and Communications Technology (Applied) Level 7

Core Courses: Compulsory to all majors and to the Unendorsed degree

Year One

All courses in Year One are compulsory and total 120 credits at Level 5

Code	Title	Entry Information	Level	Semester	Credits	Lecturer Supported Learning Hours	Independent Learning Hours
D101	Programme Fundamentals	-	5	2	15	60	90
D111	Database Fundamentals	-	5	1	15	60	90
I101	Information Systems Fundamentals	-	5	1	15	60	90
I102	Technical Support Fundamentals	-	5	2	15	60	90
I111	Web Fundamentals	-	5	2	15	60	90
I121	Systems Analysis Fundamentals	-	5	1	15	60	90
T101	Network Fundamentals	-	5	2	15	60	90
T111	Computer Hardware Fundamentals	-	5	1	15	60	90
					120	**480**	**720**

Year Two

One course in Year Two is compulsory and totals 15 credits at Level 6; the remaining 105 credits at Level 6 are comprised of three courses for the major (45 credits) and elective courses (60 credits) or 105 elective credits for the unendorsed option.

Code	Title	Entry Information	Level	Semester	Credits	Lecturer Supported Learning Hours	Independent Learning Hours
I202	IT Project Management	I102	6	2	15	45	105
					15	**45**	**105**

Elective Courses at Level 6

Code	Title	Entry Information	Level	Semester	Credits	Lecturer Supported Learning Hours	Independent Learning Hours
D201	Advanced Programming	D101	6	1 & 2	15	45	105
D202	Software Process	D101	6	1 & 2	15	45	105
D211	Database Development	D111	6	1	15	45	105
I203	Digital Multimedia	I101	6	1	15	45	105
I209	Industry Placement	120 compulsory credits at level 5	6	1 & 2	15	15	135
I211	eCommerce Systems	I111	6	1	15	45	105

I212	Enterprise Data Management	I101 & I111	6	1	15	45	105
I213	Dynamic Web Solutions	I111	6	2	15	45	105
I221	Analysis and Design	I121	6	2	15	45	105
I263	Introduction to Finance		6	1	15	45	105
T201	Network Services	T101	6	1	15	45	105
T205	Networks (CISCO ITN)	-	6	1 & 2	15	45	105
T206	Networks (CISCO RSE)	T101	6	1 & 2	15	45	105
T211	Systems Security	T111	6	2	15	45	105
BI200250	Elective A	Permission HOS	6		15	45	105
BI200251	Elective B	Permission HOS	6		15	45	105

Year Three

One course in Year Three is compulsory and totals 15 credits at Level 7; the remaining 105 credits at Level 7 are comprised of three courses for the major (75 credits) and elective courses (30 credits) or 60 compulsory and 60 elective credits for the unendorsed option.

Code	Title	Entry Information	Level	Semester	Credits	Lecturer Supported Learning Hours	Independent Learning Hours
I301	Professional Practice	240 credits (all compulsory Level 5 and 6 courses)	7	1 & 2	15	30	120
					15	**30**	**120**

Elective course at Level 7

Code	Title	Entry Information	Level	Semester	Credits	Lecturer Supported Learning Hours	Independent Learning Hours
D301	Software Engineering	I101; and D201 or D202	7	1	15	30	120
D303	Mobile Application Development	D101	7	2	15	30	120
D311	Advanced Database Concepts	D211	7	1	15	30	120
I303	Management of Information and Communication Technology	I202	7	2	15	30	120
I304	Data Analytics and Intelligence	D211	7	2	15	30	120
I309	Special Topic	240 credits including all compulsory Level 5 and 6 courses	7	1 & 2	15	30	120
I311	Advanced Web Solutions	I213	7	1	15	30	120
I321	Advanced Systems Analysis	I221	7	1	15	30	120
I367	Advanced Project Management	I202	7	1 & 2	15	30	120

Code	Title	Entry Information	Level	Semester	Credits	Lecturer Supported Learning Hours	Independent Learning Hours
T301	Network Design	I101 and T201	7	1	15	30	120
T302	CISCO Scaling and Connecting	T206	7	1	15	30	120
T311	Systems Administration	T211	7	1 & 2	15	30	120
T312	Network Security	T206	7	2	15	30	120
BI300250	Elective C	Permission HOS	7		15	30	120
BI300251	Elective D	Permission HOS	7		15	30	120

Unendorsed Degree

Year One

120 credits of Core Courses as prescribed.

Year Two

15 credits of Core courses as prescribed; the remaining 105 credits at Level 6 are comprised of elective courses.

Year Three

15 credits of Core courses as prescribed; the remaining 105 credits at Level 7 are comprised of one compulsory course course (45 credits) and elective courses (60 credits)

Compulsory Course at Level 7

Code	Title	Entry Information	Level	Semester	Credits	Lecturer Supported Learning Hours	Independent Learning Hours
I302	Industry Project	285 credits (all compulsory Level 5, 6 and 7 courses)	7	1 & 2	45	15	435
					45	**15**	**435**

Software Engineering Major

Year One

120 credits of Core Courses as prescribed.

Year Two

15 credits of Core courses as prescribed; the remaining 105 credits at Level 6 are comprised of three courses for the major (45 credits) and elective courses (60 credits)

Compulsory Courses – 45 credits at Level 6							
Code	**Title**	**Entry Information**	**Level**	**Semester**	**Credits**	**Lecturer Supported Learning Hours**	**Independent Learning Hours**
D201	Advanced Programming	D101	6	1 & 2	15	45	105
D202	Software Process	D101	6	1 & 2	15	45	105
D211	Database Development	D111	6	1	15	45	105
				Total	**45**	**135**	**315**

Year Three

15 credits of Core courses as prescribed; the remaining 105 credits at Level 7 are comprised of three courses for the major (75 credits) and elective courses (30 credits)

Compulsory Courses – 75 credits at Level 7							
Code	**Title**	**Entry Information**	**Level**	**Semester**	**Credits**	**Lecturer Supported Learning Hours**	**Independent Learning Hours**
D301	Software Engineering	I101; and D201 or D202	7	1	15	30	120
D303	Mobile Application Development	D101	7	2	15	30	120
I302	Industry Project	285 credits (all compulsory Level 5, 6 and 7 courses)	7	1 & 2	45	15	435
				Total	**75**	**75**	**675**

Total Major	**120**	**210**	**990**

Web & Mobile Development Major

Year One

120 credits of Core Courses as prescribed.

Year Two

15 credits of Core courses as prescribed; the remaining 105 credits at Level 6 are comprised of three courses for the major (45 credits) and elective courses (60 credits)

Compulsory Courses – 60 credits at Level 6							
Code	**Title**	**Entry Information**	**Level**	**Semester**	**Credits**	**Lecturer Supported Learning Hours**	**Independent Learning Hours**
I203	Digital Multimedia	I101	6	1	15	45	105
I213	Dynamic Web Solutions	I111	6	2	15	45	105
D211	Database Development	D111	6	1	15	45	105
				Total	**45**	**135**	**315**

Year Three

15 credits of Core courses as prescribed; the remaining 105 credits at Level 7 are comprised of three courses for the major (75 credits) and elective courses (30 credits)

Compulsory Courses – 75 credits at Level 7							
Code	**Title**	**Entry Information**	**Level**	**Semester**	**Credits**	**Lecturer Supported Learning Hours**	**Independent Learning Hours**
D303	Mobile Application Development	D101	7	2	15	30	120
I302	Industry Project	285 credits (all compulsory Level 5, 6 and 7 courses)	7	1 & 2	45	15	435
I311	Advanced Web Solutions	I213	7	1	15	30	120
				Total	**75**	**75**	**675**

Total Major	**120**	**210**	**990**

Data Management & Analytics Major

Year One

120 credits of Core Courses as prescribed.

Year Two

15 credits of Core courses as prescribed; the remaining 105 credits at Level 6 are comprised of three courses for the major (45 credits) and elective courses (60 credits)

Compulsory Courses – 60 credits at Level 6							
Code	**Title**	**Entry Information**	**Level**	**Semester**	**Credits**	**Lecturer Supported Learning Hours**	**Independent Learning Hours**
D201	Advanced Programming	D101	6	1 & 2	15	45	105
D211	Database Development	D111	6	1	15	45	105
I212	Enterprise Data Management	I101 & I111	6	1	15	45	105
				Total	**45**	**135**	**315**

Year Three

15 credits of Core courses as prescribed; the remaining 105 credits at Level 7 are comprised of three courses for the major (75 credits) and elective courses (30 credits)

Compulsory Courses – 75 credits at Level 7							
Code	**Title**	**Entry Information**	**Level**	**Semester**	**Credits**	**Lecturer Supported Learning Hours**	**Independent Learning Hours**
D311	Advanced Database Concepts	D211	7	1	15	30	120
I302	Industry Project	285 credits (all compulsory Level 5, 6 and 7 courses)	7	1 & 2	45	15	435
I304	Data Analytics and Intelligence	D211	7	2	15	30	120
				Total	**75**	**75**	**675**

Total Major	**120**	**210**	**990**

Business & Systems Analysis Major

Year One

120 credits of Core Courses as prescribed.

Year Two

15 credits of Core courses as prescribed; the remaining 105 credits at Level 6 are comprised of three courses for the major (45 credits) and elective courses (60 credits)

Compulsory Courses – 60 credits at Level 6							
Code	**Title**	**Entry Information**	**Level**	**Semester**	**Credits**	**Lecturer Supported Learning Hours**	**Independent Learning Hours**
D202	Software Process	D101	6	1 & 2	15	45	105
D211	Database Development	D111	6	1	15	45	105
I221	Analysis and Design	I121	6	2	15	45	105
				Total	**45**	**135**	**315**

Year Three

15 credits of Core courses as prescribed; the remaining 105 credits at Level 7 are comprised of three courses for the major (75 credits) and elective courses (30 credits)

Compulsory Courses – 75 credits at Level 7							
Code	**Title**	**Entry Information**	**Level**	**Semester**	**Credits**	**Lecturer Supported Learning Hours**	**Independent Learning Hours**
I302	Industry Project	285 credits (all compulsory Level 5, 6 and 7 courses)	7	1 & 2	45	15	435
I321	Advanced Systems Analysis	I221	7	1	15	30	120
I303	Management of Information and Communication Technology	I202	7	2	15	30	120
				Total	**75**	**75**	**675**

Total Major	**120**	**210**	**990**

Project Management Major

Year One

120 credits of Core Courses as prescribed.

Year Two

15 credits of Core courses as prescribed; the remaining 105 credits at Level 6 are comprised of three courses for the major (45 credits) and elective courses (60 credits)

Compulsory Courses – 45 credits at Level 6							
Code	**Title**	**Entry Information**	**Level**	**Semester**	**Credits**	**Lecturer Supported Learning Hours**	**Independent Learning Hours**
D202	Software Process	D101	6	1 & 2	15	45	105
I212	Enterprise Data Management	I101 & I111	6	1	15	45	105
I263	Introduction to Finance		6	1	15	45	105
				Total	**45**	**135**	**315**

Year Three

15 credits of Core courses as prescribed; the remaining 105 credits at Level 7 are comprised of three courses for the major (75 credits) and elective courses (30 credits)

Compulsory Courses – 75 credits at Level 7							
Code	**Title**	**Entry Information**	**Level**	**Semester**	**Credits**	**Lecturer Supported Learning Hours**	**Independent Learning Hours**
I302	Industry Project	285 credits (all compulsory Level 5, 6 and 7 courses)	7	1 & 2	45	15	435
I303	Management of Information and Communication Technology	I202	7	2	15	30	120
I367	Advanced Project Management	I202	7	1 & 2	15	30	120
				Total	**75**	**75**	**675**

Total Major	**120**	**210**	**990**

Systems Administration Major

Year One

120 credits of Core Courses as prescribed.

Year Two

15 credits of Core courses as prescribed; the remaining 105 credits at Level 6 are comprised of three courses for the major (45 credits) and elective courses (60 credits)

Compulsory Courses – 45 credits at Level 6							
Code	**Title**	**Entry Information**	**Level**	**Semester**	**Credits**	**Lecturer Supported Learning Hours**	**Independent Learning Hours**
D211	Database Development	D111	6	1	15	45	105
T201	Network Services	T101	6	1	15	45	105
T211	Systems Security	T111	6	2	15	45	105
				Total	**45**	**135**	**315**

Year Three

15 credits of Core courses as prescribed; the remaining 105 credits at Level 7 are comprised of three courses for the major (75 credits) and elective courses (30 credits)

Compulsory Courses – 75 credits at Level 7							
Code	**Title**	**Entry Information**	**Level**	**Semester**	**Credits**	**Lecturer Supported Learning Hours**	**Independent Learning Hours**
I302	Industry Project	285 credits (all compulsory Level 5, 6 and 7 courses)	7	1 & 2	45	15	435
D311	Advanced Database Concepts	D211	7	1	15	30	120
T311	Systems Administration	T211	7	1 & 2	15	30	120
				Total	**75**	**75**	**675**

Total Major	**120**	**210**	**990**

Network Engineering Major

Year One

120 credits of Core Courses as prescribed.

Year Two

15 credits of Core courses as prescribed; the remaining 105 credits at Level 6 are comprised of three courses for the major (45 credits) and elective courses (60 credits)

Compulsory Courses – 45 credits at Level 6							
Code	**Title**	**Entry Information**	**Level**	**Semester**	**Credits**	**Lecturer Supported Learning Hours**	**Independent Learning Hours**
T201	Network Services	T101	6	1	15	45	105
T211	Systems Security	T111	6	2	15	45	105
T206	Networks (CISCO RSE)	T101	6	1 & 2	15	45	105
				Total	**45**	**135**	**315**

Year Three

15 credits of Core courses as prescribed; the remaining 105 credits at Level 7 are comprised of three courses for the major (75 credits) and elective courses (30 credits)

Compulsory Courses – 75 credits at Level 7							
Code	**Title**	**Entry Information**	**Level**	**Semester**	**Credits**	**Lecturer Supported Learning Hours**	**Independent Learning Hours**
I302	Industry Project	285 credits (all compulsory Level 5, 6 and 7 courses)	7	1 & 2	45	15	435
T301	Network Design	I101 and T201	7	1	15	30	120
T302	CISCO Scaling and Connecting	T206	7	1 & 2	15	30	120
				Total	**75**	**75**	**675**

Total Major	**120**	**210**	**990**

Security Major

Year One

120 credits of Core Courses as prescribed.

Year Two

15 credits of Core courses as prescribed; the remaining 105 credits at Level 6 are comprised of three courses for the major (45 credits) and elective courses (60 credits)

Compulsory Courses – 60 credits at Level 6							
Code	**Title**	**Entry Information**	**Level**	**Semester**	**Credits**	**Lecturer Supported Learning Hours**	**Independent Learning Hours**
T201	Network Services	T101	6	1	15	45	105
T206	Networks (CISCO RSE)	T101	6	1 & 2	15	45	105
T211	Systems Security	T111	6	2	15	45	105
				Total	**45**	**135**	**315**

Year Three

Compulsory Courses – 60 credits at Level 6							
Code	**Title**	**Entry Information**	**Level**	**Semester**	**Credits**	**Lecturer Supported Learning Hours**	**Independent Learning Hours**
I302	Industry Project	285 credits (all compulsory Level 5, 6 and 7 courses)	7	1 & 2	45	15	435
T311	Systems Administration	T211	7	1 & 2	15	30	120
T312	Network Security	T206	7	2	15	30	120
				Total	**75**	**75**	**675**

Total Major	**120**	**210**	**990**

3.0 ASSESSMENT, MODERATION, SELF-ASSESSMENT, EVALUATIONS AND MONITORING

3.1 Assessment Philosophy and Methodology

Assessment in this degree is achievement-based and achievement is described by grades in accordance with the UCOL Academic Statute as follows:

A (+/-) Pass with distinction
B (+/-) Pass with merit
C (+/) Pass
D Fail
E Fail
F Ungraded Fail (no assessment undertaken)
DNC Did not complete both all compulsory assessments for a course and CAR (grade) (AEG) Aegrotat pass
CR Specified or Unspecified or Cross Credit
W Withdrawn.
R Restricted Pass
CO Conceded Pass
CP Conditional Pass

The following percentages for each grade shall be used:

A+	85 – 100
A	80 – 84
A-	75 – 79
B+	70 – 74
B	65 – 69
B-	60 – 64
C+	55 – 59
C	50 – 54
D	40 – 49
E	0 – 39
F	Ungraded Fail (no assessment undertaken)

A student must achieve a C grade (50-54) or higher in order to successfully pass each course.

Assessment of students is used to:

- Structure and facilitate learning
- Evaluate content and teaching
- Motivate students
- Grade achievement level
- Determine student progress through the year and onto the following year

Each course will have a minimum of 3 and generally a maximum of 5 pieces of assessment.

In determining the assessment techniques adopted for each course, lecturers will take into consideration the purpose of the course and the way in which these contribute to the overall programme objectives.

Students will be expected to:

- Locate, obtain, organise and analyse information
- Identify and solve problems
- Exercise judgment
- Select and assign priorities within restricted resources to meet deadlines
- Demonstrate mastery of practical tasks
- Recall and demonstrate comprehension of subject matter
- Transfer and receive information with ease
- Present, discuss and defend their views effectively through formal and informal, written and oral presentation

Formative Assessment	Refers to measures taken during a course, which are aimed primarily at giving feedback to lecturers and students. Such measures are commonly used to find out how much has been learned so far, or how the programme is actually going or what might be done to improve the learning process. Formative assessments are not used for grading students, they provide valuable feedback.
Summative Assessment	The information such assessments provide is the basis for the reported grade/result.

Other types of assessment may include:

- Test
- Project
- Assignment
- Exercise
- Interview
- Debate
- Seminar presentation
- Report
- Portfolio
- Presentation
- Journal

Some assessments are carried out as a group to ascertain the extent to which students are able to demonstrate the interpersonal skills needed for a career requiring co-operation and participation in group decision-making. Individual contributions to the group will be assessed. This may involve peer assessment.

3.1.1 Assessment in Te Reo Māori

UCOL endorses the right of its students to use te reo Māori in assessments.

Assessments may be conducted in te reo Māori, provided the conditions outlined in the Assessment in Te Reo Procedure are able to be met (refer to Assessment and Moderation Policy.)

Students, fluent in te reo Māori, who wish to present all or part of their assessed work in te reo Māori should notify their lecturer and the Programme Leader of this at the beginning of their programme (refer to Assessment in Te Reo Māori Procedure).

3.1.2 Late Submissions

Extensions for an assessment can only be granted prior to the assessment due date and only in exceptional circumstances. Consideration of exceptional circumstances will be made in accordance with the UCOL Assessment Policy and Procedure.

These circumstances may include:

- Sickness – in which case a medical certificate must be presented to the lecturer.
- Bereavement – in which case the lecturer must be informed as soon as possible.
- Extenuating circumstances – these circumstances must be explained to the lecturer and proof may be required.

An application for an extension must be submitted in written form using the Request for Assessment Extension Form (provided in the programme's student handbook) or in electronic form (email) to the subject lecturer. An application made in electronic form must include all the information required by the Request for Assessment Extension Form.

Where an extension has been granted, and the extension deadline has been met, no penalties will apply. The student will be assessed, and feedback provided, in the same way as if the assessment was submitted on the original date and time.

3.1.3 Penalties for Late Submission

The following conditions apply to all late submission of assignment material that does not have an approved extension:

- All assignment work received after the due date and time, and not subject to a lecturer-approved extension, will attract a penalty.
- The penalty for late submission is the deduction of 10% of the mark achieved in the assessment task, for each day beyond the due date for submission.
- The penalty is applied for a maximum of five days.
- An assignment received after five days from the due date for submission will be returned unmarked and a zero grade will be entered for the assignment.
- No late submissions may be accepted after marked assignments have been returned to students unless it can be determined that there will be no advantage to the student submitting the late assignment or disadvantage to students who have submitted the work on time.

3.1.4 Student Submission of Electronic Assignments

An academic plagiarism detection service will be used on all digital assignments. This service provides evidence of equivalent text found from another source such as the Internet, a global database of previous student assignments and electronic journals and articles.

3.2 Resits/Reconsiderations/Appeals

3.2.1 Resits

An assessment resit will earn a maximum grade of 50%.

Students will have a limited number of resit opportunities depending on level, these are:

- A total of four resits at level 5 (across all eight courses)
- A total of two resits at level 6 (across eight courses)
- A total of one resit at level 7 (across five courses, I302 is excluded)

Resits beyond those specified above may be granted in exceptional circumstances on a case-by-case by the Head of School.

Resits for assessments will only be available to students at the end of each semester where the following conditions are met:

- The student has failed a course with a final grade on 30% or higher
- Gaining 50% on a single given assessment within the course will result in a grade of 50% or higher for the course overall
- Only one resit is used per course

Where a practical demonstration is required as part of an assessment, there may be an opportunity for a reattempt of that demonstration. Students may be given a maximum of two attempts for a practical demonstration assessment. These practical demonstrations reattempts are separate from the end of semester resits mentioned above.

Because of the applied nature of the degree, terms may be specified in individual course outlines which require students to pass the practical component in order to meet the pass criteria for the course overall. Terms in individual course outlines may also exclude the above mentioned resit provisions (e.g. multiple week assessed group work where a resit is not possible).

3.2.2 Reconsideration of Assessment Result

If a student is unhappy with an assessment result, a request may be made for a reconsideration of that assessment. The student handbook contains the form that must be completed. The UCOL Academic Statute states that this written request must be made within five (5) working days of the return of the assessment.

Students must be informed that, as a result of the reconsideration of assessment, the result may be unchanged, raised or lowered. Refer to the UCOL Academic Statute.

The reconsidered result will be recorded as the final result. Students still have the right to appeal this result in accordance with the UCOL Academic Statute.

3.2.3 Academic Appeals

The UCOL Academic Statute details the academic appeals process.

3.3 Special Passes (provision for impaired performance)

Applications for special passes are accepted and considered under the terms of the UCOL Academic Statute.

3.4 Moderation

Moderation is undertaken, according to UCOL policy and procedures, to ensure, that the on-going practices and quality assurance procedures are maintained in relationship to assessment of student achievement.

3.4.1 Internal Moderation

Internal moderation is conducted in accordance with UCOL's Assessment and Moderation Policy and Moderation Procedure. Faculty Board of Educational Improvement is responsible for accepting moderation reports and recording and reporting any actions taken as a result of these activities.

3.4.2 External Moderation

External moderation is conducted in accordance with UCOL's Assessment and Moderation Policy and Moderation Procedure. Faculty Board of Educational Improvement is responsible for accepting external moderation reports and recording and reporting any actions taken as a result of these activities.

3.5 Self-assessment

Self-assessment is conducted continuously through an examination of evidence and conversations with relevant staff and other stakeholders.

Self-assessment Reporting is a process that involves the programme team (management and academic staff) throughout the year in reflective and self-evaluative conversations of the team's practices, values and behaviours. The culmination of this process is the production of the Self-assessment Report that captures the essence of the year's conversations and promotes improvements with the programme that will enhance student and stakeholder outcomes.

The purpose of the Self-assessment reporting is to enable programme teams, and therefore UCOL, to sustain incremental improvements in professional practice leading to improvements in student outcomes and stakeholder engagement. This will also lead to enhanced staff satisfaction, and an improved reputation for UCOL.

How the team engages in conversation will vary. However, the central themes will relate to the six NZQA Key Evaluation Questions (KEQs). As the team engages with each KEQ, different sources of evidence will be used to understand what happened, and challenge assumptions. This should enable the team to form a collectively accepted view of what really happened, and generate an action and work plan for the upcoming year.

Evidence for the Self-assessment process will generally be in the form of qualitative and quantitative data. The Facilitated Self-assessment meetings provide a forum to critically reflect and analyse programme specific data. This will allow the report writer, the team and other interested parties to make informed decisions for actions leading to specific outcomes for improvement.

3.6 Evaluations

Programmes/courses/lecturers are evaluated in accordance with UCOL policy and procedure and include self assessment, degree reviews and academic audits.

3.7 Degree Monitoring

BICT is monitored in accordance with UCOL's Degree Monitoring Guidelines. Refer to UCOL's policy and procedure on External Monitoring of Degree Programmes.

4.0 COURSES

YEAR ONE

- D101 Programming Fundamentals
- D111 Database Fundamentals
- I101 Information Systems Fundamentals
- I102 Technical Support Fundamentals
- I111 Web Fundamentals
- I121 Systems Analysis Fundamentals
- T101 Network Fundamentals
- T111 Computer Hardware Fundamentals

YEAR TWO

- I202 IT Project Management
- D201 Advanced Programming
- D202 Software Process
- D211 Database Development
- I203 Digital Multimedia
- I209 Industry Placement
- I211 eCommerce Systems
- I213 Dynamic Web Solutions
- I1221 Analysis and Design
- T201 Network Services
- T205 Networks (CISCO ITN)
- T206 Networks (CISCO RSE)
- T211 Systems Security
- I212 Enterprise Data Management
- I263 Introduction to Finance

YEAR THREE

- I301 Professional Practice
- I302 Industry Project
- D301 Software Engineering
- D303 Mobile Application Development
- D311 Advanced Database Concepts
- I303 Management of Information and Communication Technology
- I321 Advanced Systems Analysis
- I309 Special Topic
- T301 Network Design
- T302 CISCO Scaling and Connecting
- T311 Systems Administration
- T312 Network Security
- I304 Data Analytics and Intelligence
- I311 Advanced Web Solutions
- I367 Advanced Project Management

D101 PROGRAMMING FUNDAMENTALS

Course Level	5
Credits	15
Duration	60 Lecturer supported learning hours 90 Independent learning hours
Pre-requisite	none
Co-requisite	none

Course Aim
To provide an introduction to the fundamentals of programming and to enable students to develop quality software.

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

1. Develop an application using an industry standard language
2. Debug, test and document a software application
3. Explain the fundamentals of programming

Content

- History of software development
- Phases of software development lifecycle (SDLC)
- Concepts of problem solving and abstraction
- Design concepts
- Programming concepts: control structures, expressions, use of APIs, data types, classes, and inheritance
- Debugging and exception handling
- Testing: black box and white box

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

Assessment Procedures
Assessment is achievement based.

Assessment Type	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	15%	3	Gain a minimum of 50% overall
Assessment Two	35%	1, 2	
Assessment Three	35%	2	
Assessment Four	15%	3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts

and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

D111 DATABASE FUNDAMENTALS

Course Level	5
Credits	15
Duration	60 Lecturer supported learning hours 90 Independent learning hours
Pre-requisite	none
Co-requisite	none

Course Aim
To provide students with a broad operational knowledge of database design and administration.

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

1. Design a relational database to meet organisational requirements
2. Apply interaction design concepts to a user interface
3. Store and retrieve organisational data using query and reporting tools
4. Explain database design and administration

Content

- Data organisation approaches
  Examples may include: data types, tables, keys, relationships
- Entity Relationship Diagrams
- Common Database models
  Examples may include: (distributed, centralised) hierarchical, network, relational, object-oriented
- Concepts of Data Manipulation Language (DML), Data Definition Language (DDL), and Data Control Language (DCL)
- Data Integrity
  Examples may include: entity integrity, domain integrity, referential integrity

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

Assessment Procedures
Assessment is achievement based.

Assessment Type	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	25%	1	Gain a minimum of 50% overall
Assessment Two	40%	2, 3	
Assessment Three	35%	4	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

I101 INFORMATION SYSTEMS FUNDAMENTALS

Course Level	5
Credits	15
Duration	60 Lecturer supported learning hours 90 Independent learning hours
Pre-requisite	none
Co-requisite	none

Course Aim
To introduce students to business systems and essential components of the ICT profession.

Learning Outcomes
At the successful completion of this course students will be able to:

1. Describe information systems principles, roles and functional business areas
2. Communicate effectively and professionally using industry standard tools
3. Apply and explain professional, legal, and ethical principles relevant to the ICT industry

Content

- Organisational entities and structures including communication processes and mediums
- Consumer law, privacy law, relevant computing legislation, ethical considerations, Treaty of Waitangi
- Collaborative document editing, virtual team organisation
- Information systems and IT roles
- APA referencing

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

Assessment Procedures
Assessment is achievement based.

Assessment Type	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	20%	2	Gain a minimum of 50% overall
Assessment Two	40%	2, 3	
Assessment Three	40%	1, 3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, on-line databases, and the Internet to increase their knowledge

and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

I102 TECHNICAL SUPPORT FUNDAMENTALS

Course Level	5
Credits	15
Duration	60 Lecturer supported learning hours 90 Independent learning hours
Pre-requisite	none
Co-requisite	none

Course Aim
To enable students to deliver organisational technical support based on best practice in IT Service Management

Learning Outcomes
At the completion of this course students will be able to:

1. Apply a user needs analysis to identify organisational requirements
2. Create, deliver and evaluate a training session
3. Develop technical documentation to a professional standard
4. Explain IT service management best practice

Content

- Adult learning concepts
- Learning preferences
- Training styles and methods
- User needs analysis
- Resources and tools for training
- Technical documentation
- Lesson planning
- User support services and roles
- ITIL Service Operation

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

Assessment Procedures
Assessment is achievement based.

Assessment Type	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	20%	1, 2	Gain a minimum of 50% overall
Assessment Two	30%	1, 3	
Assessment Three	50%	4	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts

and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

I111 WEB FUNDAMENTALS

Course Level	5
Credits	15
Duration	60 Lecturer supported learning hours 90 Independent learning hours
Pre-requisite	none
Co-requisite	none

Course Aim
To provide an introduction to the fundamentals of web development and to enable students to produce quality websites.

Learning Outcomes

At the successful completion of this course students will be able to:

1. Design a website according to UX design principles that meets organisational requirements
2. Develop a website using an industry standard approach
3. Explain the fundamentals of website development

Content
- History of the Internet
- Principles of Web design
- Internet protocols
  Examples may include: TCP/IP, HTTP, FTP, SMTP
- Web development techniques
  Examples may include: HTML, XHTML, DHTML, XML, JavaScript, CSS, server-side scripting

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

Assessment Procedures
Assessment is achievement based.

Assessment Type	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	20%	1	Gain a minimum of 50% overall
Assessment Two	45%	2	
Assessment Three	35%	3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to

increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

I121 SYSTEMS ANALYSIS FUNDAMENTALS

Course Level	5
Credits	15
Duration	60 Lecturer supported learning hours 90 Independent learning hours
Pre-requisite	none
Co-requisite	none

Course Aim
To provide an introduction to the principles of systems analysis and systems requirements elicitation techniques

Learning Outcomes
At the successful completion of this course students will be able to:

1. Analyse situations requiring problem solving
2. Elicit and model user requirements using a variety of techniques
3. Construct accurate systems analysis documentation reflecting requirements

Content

- Problem analysis techniques
  Examples may include: user interviews, observation, problem definition
- Requirements elicitation techniques
  Examples may include: user interviews, observation, surveys, prototyping, walkthroughs
- Requirements Modelling
  Examples may include: user stories, use-case diagrams
- Systems analysis phases of Systems Development Lifecycle
- Modelling principles
  Examples may include: abstraction, decomposition, user views, explicitness (eg, state all assumptions or make no assumptions)
- Data Modelling
- Process Modelling

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

Assessment Procedures
Assessment is achievement based.

Assessment Type	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	30%	1, 2	Gain a minimum of 50% overall
Assessment Two	40%	2, 3	
Assessment Three	30%	2, 3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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T101 NETWORK FUNDAMENTALS

Course Level	5
Credits	15
Duration	60 Lecturer supported learning hours 90 Independent learning hours
Pre-requisite	none
Co-requisite	none

Course Aim
To provide an introduction to the fundamentals of computer networks as they currently exist in industry and to enable students to configure, test and troubleshoot local area networks.

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

1. Describe the operation of current network technologies
2. Select the most appropriate network technologies for a given scenario
3. Apply testing and troubleshooting techniques to networking problems

Content

- Computer network classification: LAN, MAN, WAN and PAN.
- LAN copper, wireless and fibre media; their characteristics and usage.
- Ethernet hardware, performance and operation.
- IP addressing and operation.
- TCP operation, performance and uses.
- UDP operation, performance and uses.
- Symmetric and asymmetric key encryption characteristics and usage.
- Authentication and hashing.
- Network configuration of operating systems in current use.

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

Assessment Procedures
Assessment is achievement based.

Assessment Type	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	10%	1, 2, 3	Gain a minimum of 50% overall
Assessment Two	45%	1, 2, 3	
Assessment Three	45%	1, 2, 3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

T111 COMPUTER HARDWARE FUNDAMENTALS

Course Level	5
Credits	15
Duration	60 Lecturer supported learning hours 90 Independent learning hours
Pre-requisite	none
Co-requisite	none

Course Aim
To develop students' understanding of the fundamentals of computer hardware, operating systems and troubleshooting techniques.

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

1. Describe the purpose and operation of major computer components
2. Demonstrate use of a command line interface (CLI)
3. Select, install, troubleshoot and configure IT hardware and systems software

Content

- Numbering systems and data representation used in computer systems
- Computer hardware and operating system fundamentals
- Troubleshooting tools and techniques relating to hardware and operating systems
- File Systems
- Memory Management
- Concurrency

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

Assessment Procedures
Assessment is achievement based.

Assessment Type	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	30%	1, 3	Gain a minimum of 50% overall
Assessment Two	30%	1, 2, 3	
Assessment Three	40%	2, 3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the

objective of learning and developing their referencing skills and their general academic writing skills.

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D211 DATABASE DEVELOPMENT

Course Level	6
Credits	15
Duration	45 Lecturer supported learning hours 105 Independent learning hours
Pre-requisite	D111
Co-requisite	none

Course Aim
To effectively design an information system for a complex business application.

Learning Outcomes
At the successful completion of this course students will be able to:

1. Evaluate alternative design solutions
2. Design a complex information system
3. Create a prototype from a design
4. Formulate quality processes

Content

- Normalisation and De-normalisation
- Conceptual, Logical, and Physical diagrams
- Client/Server Architecture
- Prototyping approaches
- Distributed Database design
- Input/Output design

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL's learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	30%	1	Gain a minimum of 50% overall
Assessment Two	25%	2, 3	
Assessment Three	45%	4	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

I202 IT PROJECT MANAGEMENT

Course Level	6
Credits	15
Duration	45 Lecturer supported learning hours 105 Independent learning hours
Pre-requisite	I102
Co-requisite	none

Course Aim
This course will enable the student to learn the basic principles and terminology of the profession of project management, and apply this to create project plans. Students will also be given a brief introduction to using project management software.

Learning Outcomes
At the completion of this course students will be able to:

1. Examine, discuss and apply the knowledge areas of project management.
2. Develop a project plan for an IT related project.
3. Use project management software to create a Gantt chart for scheduled activities and assigned resources, including people, equipment and their relevant costs.
4. Use project management software to analyse project data and produce reports.

Content

- Knowledge areas of Project Management including; Integration, Scope, Time, Cost, Quality, Resources, Stakeholders, Communications, Risk, and Procurement
- Project Management terminology
- Project planning
- Project management software

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	25%	1, 2, 3	Gain a minimum of 50% overall
Assessment Two	25%	2, 3	
Assessment Three	50%	1, 2, 4	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

I221 ANALYSIS AND DESIGN

Course Level	6
Credits	15
Duration	45 Lecturer supported learning hours 105 Independent learning hours
Pre-requisite	I121
Co-requisite	none

Course Aim
This course will enable students to analyse the requirements for an information system and evaluate different methodologies used in systems analysis.

Learning Outcomes
At the successful completion of this course students will be able to:

1. Create analysis documentation for a moderately complex system
2. Create design documentation for the system under investigation
3. Implement quality processes to ensure accuracy of analysis and design documentation

Content

- Analysis methodologies
- Requirements Management
- Data and Process modelling
- Quality processes

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	30%	1, 2, 3	Gain a minimum of 50% overall
Assessment Two	30%	1, 2, 3	
Assessment Three	40%	1, 2, 3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the

objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

D201 ADVANCED PROGRAMMING

Course Level	6
Credits	15
Duration	45 Lecturer supported learning hours 105 Independent learning hours
Pre-requisite	D101
Co-requisite	none

Course Aim
To introduce standard algorithms required for business application programming

Learning Outcomes
At the successful completion of this course students will be able to:
1. Design and Construct small applications using a variety of algorithms
2. Devise test plans to ensure quality software
3. Create system maintenance documentation

Content
- Standard algorithms
  Examples may include: Searching, Sorting, Recursion
- File input/output
- Database access
- Testing strategies
  Examples may include: white-box, black-box
- Maintenance documentation
- Web applications

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	30%	1, 2	Gain a minimum of 50% overall
Assessment Two	40%	1	
Assessment Three	30%	1, 2, 3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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D202 SOFTWARE PROCESS

Course Level	6
Credits	15
Duration	45 Lecturer supported learning hours 105 Independent learning hours
Pre-requisite	D101
Co-requisite	none

Course Aim
To create quality software applications utilising a modern development approach

Learning Outcomes
At the successful completion of this course students will be able to:

1. Undertake a team based iterative development project
2. Effectively manage an individual development task
3. Implement processes to ensure quality
4. Compare and select an appropriate development method for a given problem

Content

- Iterative development approaches
  Examples may include: RAD, Agile
- Team based development approaches
- Quality Assurance techniques
  Examples may include: Testing, Inspection and Review, Maintenance documentation, User documentation
- Adapting to user requirements changes

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	15%	4	Gain a minimum of 50% overall
Assessment Two	45%	1, 3	
Assessment Three	40%	2, 3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a

source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

I203 DIGITAL MULTIMEDIA

Course Level	6
Credits	15
Duration	45 Lecturer supported learning hours 105 Independent learning hours
Pre-requisite	I101 Information Systems
Co-requisite	none

Course Aim
To apply principles and techniques relating to the application of digital multimedia technologies

Learning Outcomes
At the successful completion of this course students will be able to:

1. Describe the concepts of digital images, video and audio
2. Create and manipulate digital image, video and audio files according to a technical specification for distribution across the ICT infrastructure
3. Optimise digital multimedia for commonly used ICT mediums

Content

- Digital Images
  Examples may include: Editing, 2D, 3D, Raster type, Vector type, Lossy and Lossless compression, Resolution, Conversion, Common file types, Medium Optimisation
- Digital Video
  Examples may include: Editing, Recording, Frame rate, Interlacing, Resolution, Aspect Ratio, Bit rate, Compression, Codecs, Common formats, Conversion, Common file type, Medium Optimisation
- Digital Audio
  Examples may include: Editing, Recording, Sample rate, Word size, Bit rate, Dithering, Aliasing, Compression, Conversion, Common file type, Medium Optimisation

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL's learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria

Assessment One	30%	1, 2, 3	Gain a minimum of 50% overall
Assessment Two	20%	1, 2, 3	
Assessment Three	20%	1, 2, 3	
Assessment Four	30%	1, 2, 3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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I209 INDUSTRY PLACEMENT

Course Level	6
Credits	15
Duration	15 Lecturer Supported 135 Independent learning hours
Pre-requisite	120 compulsory credits at level 5
Co-requisite	none

Course Aim
To enable students to undertake an ICT industry based work placement. The industry placement course is subject to availability and approval from the Head of School.

Learning Outcomes
On successful completion of this paper students will be able to:

1. Work within an ICT industry based environment
2. Meet work placement expectations and requirements
3. Record and evaluate work and progress
4. Present placement outcomes to academic supervisors

Content

- Placement documentation, e.g. job description, roles, and responsibilities
- Industry based work which complements and enhances existing ICT skills and knowledge
- Development and maintenance of weekly work logs
- Written reporting on placement outcomes
- Reflective formal presentations of placement experiences

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL's learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

Assessment Procedures
Assessment is standards-based and achievement is described by grades. This paper will have a minimum of three and generally a maximum of five pieces of assessment. A student must achieve a C grade (50-54) or higher in order to successfully pass this paper.

The specific assessments will be specified in the Paper Outline as provided by the lecturer at the beginning of the semester. Assessment activities will be selected from the following range: theory test, practical test, practical demonstration, project, assignment, exercise, interview, debate, report, portfolio, presentation, journal, work log.

Off Campus Learning
Refer to 1.12 in Programme Overview

Resources and Prescribed / Recommended Texts

Students will access a learning management system to obtain templates and learning resources for the generic assessments. As each placement is unique, students will use experience gained throughout the degree to source their own specific resources. The library is also a source of information and guidance in the use of academic referencing and writing techniques.

I211 eCOMMERCE SYSTEMS

Course Level	6
Credits	15
Duration	45 Lecturer supported learning hours 105 Independent learning hours
Pre-requisite	I111
Co-requisite	none

Course Aim
To introduce principles and application of electronic commerce technologies

Learning Outcomes
At the successful completion of this course students will be able to:

1. Define Electronic Commerce and describe its various categories
2. Describe the major types of Electronic Commerce transactions
3. Describe the limitations of Electronic Commerce
4. Implement an online commercial Web site for selling products
5. Implement user security and session management for the Web site

Content

- Overview of Electronic Commerce
  Examples may include: B2B, B2C, M-Commerce, Electronic tendering systems, Affiliate marketing, Electronic Storefronts, E-Malls, Information portals, Supply chains
- Web Programming languages
  Examples may include: ASP.NET, Visual Basic.NET, C#.NET, PHP
- Electronic Commerce Web site development
  Examples may include: workflow design, simulating credit card processing facilities, data validation
- Web application security

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL's learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

Assessment Procedures
Assessment is standards-based and achievement is described by grades. This course will have a minimum of three and generally a maximum of five pieces of assessment. A student must achieve a C grade (50-54) or higher in order to successfully pass this course.

The specific assessments will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Assessment activities will be selected from

the following range: theory test, practical test, practical demonstration, project, assignment, exercise, interview, debate, report, portfolio, presentation, journal.

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

I213 DYNAMIC WEB SOLUTIONS

Course Level	6
Credits	15
Duration	45 Lecturer supported learning hours 105 Independent learning hours
Pre-requisite	I111
Co-requisite	none

Course Aim
To create a dynamic web application utilising a variety of open-source technologies

Learning Outcomes
At the successful completion of this course students will be able to:

1. Design and document a web application
2. Secure critical business data within the web application
3. Interface with a web based database management system
4. Implement user security and session management

Content

- Open source web technologies
- Scripting languages
- Web Server software
- Web application security
- Data validation

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	25%	1	Gain a minimum of 50% overall
Assessment Two	30%	3, 4	
Assessment Three	45%	2, 3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and

other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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T201 NETWORK SERVICES

Course Level	6
Credits	15
Duration	45 Lecturer supported learning hours 105 Independent learning hours
Pre-requisite	T101
Co-requisite	none

Course Aim
To implement key network services as used in modern LANs and to explain the network protocols that these services use.

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

1. Analyse and evaluate network services
2. Implement and configure network services
3. Analyse and diagnose faults within network services

Content

- DNS server configuration of forward and reverse resolution
- DHCP server configuration
- LDAP compliant directory service
- Web proxy implementation and automatic client configuration
- File sharing with SMB

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	35%	1, 2, 3	Gain a minimum of 50% overall
Assessment Two	30%	1, 2, 3	
Assessment Three	35%	1, 2, 3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and

other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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T205 NETWORKS (CISCO ITN)

Course Level	6
Credits	15
Duration	45 Lecturer Supported 105 Independent learning hours
Pre-requisite	none
Co-requisite	none

Course Aim
To enable students to gain practical and technical networking knowledge that will assist in designing, building and analysing networks and their protocols.

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

1. Describe the devices and services used to support communications in data networks and the internet
2. Describe the role of protocol layers in data networks
3. Describe the importance of addressing and naming schemes at various layers of data networks in IPv4 and IPv6 environments
4. Design, calculate, and apply subnet masks and addresses to fulfil given requirements in IPv4 and IPv6 networks
5. Explain fundamental Ethernet concepts such as media, services, and operations
6. Build a simple Ethernet network using routers and switches
7. Use CISCO command-line interface (CLI) commands to perform basic router and switch configurations
8. Utilise common network utilities to verify small network operations and analyse data traffic

Content

- The CISCO Network Academy (CNA) Introduction to Networks curriculum:
  - Exploring the Network
  - Configuring a Network Operating System
  - Network Protocols and Communications
  - Network Access
  - Ethernet
  - Network Layer
  - Transport Layer
  - IP Addressing
  - Subnetting IP Networks
  - Application Layer

Learning and Teaching Approaches
The course may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web based technology, email and telephone. This will enhance the opportunity for students to access learning materials, communicate with one another and with their lecturers.

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Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	10%	1, 2, 3, 4, 5, 6, 7, 8	Gain a minimum of 50% overall
Assessment Two	45%	1, 2, 3, 4, 5, 6, 7, 8	
Assessment Three	45%	1, 2, 3, 4, 5, 6, 7, 8	

Off Campus Learning
Not applicable

Resources and Prescribed / Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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T206 NETWORKS (CISCO RSE)

Course Level	6
Credits	15
Duration	45 Lecturer Supported 105 Independent learning hours
Pre-requisite	T101
Co-requisite	none

Course Aim
To enable students to gain practical and technical networking knowledge that will allow them to configure and troubleshoot routers, switches and resolve common issues with networks.

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

1. Describe basic switching concepts and the operation of CISCO switches
2. Describe the purpose, nature, and operations of a router, routing tables, and the route lookup process
3. Describe how VLANs create logically separate networks and how routing occurs between them
4. Configure and troubleshoot static routing

Content
The CISCO Network Academy (CNA) Routing and Switching Essentials curriculum:

- Introduction to Switched Networks
- Basic Switching Concepts and Configuration
- VLANs
- Routing Concepts
- Inter-VLAN Routing
- Static Routing
- DHCP
- STP
- EtherChannel
- FHRP
- WLAN concepts

Learning and Teaching Approaches
The course may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web based technology, email and telephone. This will enhance the opportunity for students to access learning materials, communicate with one another and with their lecturers.

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Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria

Assessment One	10%	1, 2, 3, 4	Gain a minimum of 50% overall
Assessment Two	45%	1, 2, 3, 4	
Assessment Three	45%	1, 2, 3, 4	

Off Campus Learning
Not applicable

Resources and Prescribed / Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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T211 SYSTEMS SECURITY

Course Level	6
Credits	15
Duration	45 Lecturer supported learning hours 105 Independent learning hours
Pre-requisite	T111
Co-requisite	none

Course Aim
To analyse and implement computer systems security, including operating systems, server applications and networks; and to enable students to explain the fundamentals of computer forensics.

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

1. Analyse and evaluate the security of IT systems
2. Implement and configure the security of IT systems
3. Diagnose IT systems security and mitigate weaknesses

Content

- Operating systems securityFirewalls and content filtering
- Virtual Private Networks (VPNs)
- Tunnelling
- Operating Systems Security
- Networking devices and protocols
- Encryption and Authentication

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	40%	1, 2, 3	Gain a minimum of 50% overall
Assessment Two	30%	1, 2, 3	
Assessment Three	30%	1, 2, 3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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I212 ENTERPRISE DATA MANAGEMENT

Paper Level	6
Credits	15
Duration	45 Lecturer Supported 105 Independent learning hours
Pre-requisite	I101 & I111
Co-requisite	None

Course Aim
To enable students to design and implement enterprise data management systems.

Learning Outcomes
On successful completion of this paper students will be able to:

1. Compare and select appropriate enterprise data management systems
2. Design an enterprise data management system structure
3. Implement an enterprise data management system including automated processes

Content
This paper will cover the following:

- Content Management Systems
- Document Management Systems
- Business Intelligence Systems
- Cloud-based platforms

Learning and Teaching Approaches
The student will meet with the academic supervisor for up to one hour per week, or by negotiation with the academic supervisor. This meeting ensures that the placement is progressing in accordance with the agreed expectations and enables discussion of any issues/problems that may arise. The student is responsible for any extra learning that is required for their industry placement.

The overall management of the placement is the responsibility of the student, who must keep all parties informed of any issues that arise that may affect their commitment to the placement. This includes regular communication with the placement sponsor.

Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	40%	1, 2, 3	Gain a minimum of 50% overall
Assessment Two	30%	2, 3	
Assessment Three	30%	1, 2, 3	

Off Campus Learning
Refer to 1.12 in Programme Overview

Resources and Prescribed / Recommended Texts
The required and recommended reading material will be specified in the Paper Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques.

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I263 INTRODUCTION TO FINANCE

Course Level	6
Credits	15
Duration	45 Lecturer supported learning hours 120 Independent learning hours
Pre-requisite	
Co-requisite	none

Course Aim
Students will apply financial management knowledge and skills to a small or medium size business for decision-making purposes

Learning Outcomes
At the successful completion of this course students will be able to:

1. Demonstrate an understanding of the business finance environment.
2. Calculate, interpret and evaluate capital budgeting techniques and apply them to the appraisal of investment decisions.
3. Apply understanding of working capital and current assets management to given business situations.
4. Evaluate short term and long term financing alternatives for businesses.
5. Analyse principles of capital structure including the cost of capital.
6. Demonstrate application of different aspects of business finance to case studies and offer recommendations.

Content

- Financial management, financial planning and financial control
- Impact of stakeholder demands and agency theory on financial goals
- Basic concepts of working capital management
- Cash, accounts receivable, inventory and accounts payable management
- Capital expenditure (capital budgeting) techniques including risks in investments
- Capital structure, debt and equity consideration, weighted average cost of capital and capital asset pricing model
- Short- and long-term financing

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	19%	1, 3, 4	Gain a minimum of 50% overall
Assessment Two	15%	2	
Assessment Three	20%	6	
Assessment Four	46%	2, 4, 5	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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I301 PROFESSIONAL PRACTICE

Course Level	7
Credits	15
Duration	30 Lecturer supported learning hours 120 Independent learning hours
Pre-requisite	240 Credits including all Level 5 and 6 compulsory courses
Co-requisite	none

Course Aim
To prepare students for an industry project/internship related to their area of study.

Learning Outcomes
On successful completion of this course, students will be able to:

1. Demonstrate the work-place skills and attributes required to obtain a role in a New Zealand business.
2. Identify and critically analyse business-related processes and issues relating to an organisation and apply theoretical knowledge to processes or problems.
3. Develop and present a proposal for a project on a specific organisational issue.

Content

- Organisational communication
- Curriculum Vitae preparation
- Interview skills
- Client management
- Presentation skills
- Team roles and managing teams
- Industry project overview and project sourcing
- Ethics and professional conduct
- Employment and remuneration

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	35%	1	Gain a minimum of 50% overall
Assessment Two	35%	2	
Assessment Three	30%	3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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I302 INDUSTRY PROJECT

Course Level	7
Credits	45
Duration	15 Lecturer supported learning hours 435 Independent learning hours
Pre-requisite	280 credits including all compulsory level 5, 6 and 7 courses
Co-requisite	none

Course Aim
To enable students to undertake an industry based project of a complex nature.

Learning Outcomes
At the completion of this course students will be able to:

1. Manage an ICT project for industry
2. Produce original work and project deliverables
3. Consider and apply professional work ethics
4. Meet project timelines and goals
5. Record and evaluate project work and progress
6. Present project outcomes to sponsors and academic supervisors

Content

- Project documentation including terms of reference for project
- Industry based work which integrates skills and knowledge gained throughout the degree and of a suitably complex level
- Written report on project outcomes
- Formal presentations

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	5%	1, 2	Gain a minimum of 50% overall
Assessment Two	60%	1, 2, 3, 4, 5, 6	
Assessment Three	5%	6	
Assessment Four	15%	6	
Assessment Five	15%	5	

Off Campus Learning
Refer to 1.12 in Programme Overview

Resources and Prescribed/Recommended Texts
Students will access a learning management system to obtain templates and learning resources for the generic assessments. As each project is unique, students will use experience gained throughout the degree to source their own specific resources. The library is also a source of information and guidance in the use of academic referencing and writing techniques.

D301 SOFTWARE ENGINEERING

Course Level	7
Credits	15
Duration	30 Lecturer supported learning hours 120 Independent learning hours
Pre-requisite	I101; and D201 or D202
Co-requisite	none

Course Aim
To design and construct quality software ready for distribution

Learning Outcomes
At the successful completion of this course students will be able to:

1. Work in a team to deliver a software product
2. Conduct effective and efficient inspections
3. Evaluate software user interfaces for accessibility and usability
4. Design and implement testing to ensure a quality product

Content

- Software engineering and its place as an engineering discipline
- Software reuse: Frameworks and APIs
- Human-Computer interaction
- User-Interface evaluation techniques:
  Examples may include: heuristic, cognitive walkthroughs
- Task Analysis. User-centred design
- Securing applications
- Testing strategies
  Examples may include: unit testing, integration testing, profiling, test driven development
- Problem / defect reporting and tracking

Learning and Teaching Approaches
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Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	30%	3	Gain a minimum of 50% overall
Assessment Two	55%	1, 4	
Assessment Three	15%	2	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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D303 MOBILE APPLICATION DEVELOPMENT

Course Level	7
Credits	15
Duration	30 Lecturer supported learning hours 120 Independent learning hours
Pre-requisite	D101
Co-requisite	none

Course Aim
To develop mobile applications for current and emerging mobile computing devices using industry standard tools and frameworks

Learning Outcomes
At the successful completion of this course students will be able to:

1. Design and develop mobile applications in a major mobile platform
2. Apply current software technologies, framework architecture and standards used in mobile application development
3. Securely transfer local data to a remote real-time database

Content

- Mobile app design
- Developing apps for Android or other mobile operating systems
- Local Data storage on mobile devices
- Mobile Frameworks
- Mobile Design Patterns
- Web services

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	20%	1, 2, 3	Gain a minimum of 50% overall
Assessment Two	20%	1, 2	
Assessment Three	30%	1, 2, 3	
Assessment Four	30%	1, 2, 3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
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D311 ADVANCED DATABASE CONCEPTS

Course Level	7
Credits	15
Duration	30 Lecturer supported learning hours 120 Independent learning hours
Pre-requisite	D211
Co-requisite	none

Course Aim
To enable students to successfully design, create and administer a data warehouse using a server-based database management system.

Learning Outcomes
At the successful completion of this course students will be able to:

1. Discuss and argue an advanced database topic
2. Install a server-based database management system
3. Design and create a data warehouse schema
4. Transfer and transform data from more than one data source into a data warehouse
5. Analyse and process data for management reporting
6. View pre-processed information from the data warehouse from a separate application

Content

- Overview of data warehousing
- Installing and securing a server-based database management system
- The data warehouse schema
  Examples include: fact tables, dimensions tables, star schemas, snowflake schemas
- Data transfer and transformation with Data Transfer Services
- Data analysis and processing with Analysis Services

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	45%	2, 3, 4	Gain a minimum of 50% overall
Assessment Two	25%	1	
Assessment Three	30%	5, 6	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
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I303 MANAGEMENT OF INFORMATION AND COMMUNICATION TECHNOLOGY

Course Level	7
Credits	15
Duration	30 Lecturer supported learning hours 120 Independent learning hours
Pre-requisite or Co-requisite	I202

Course Aim
To provide students with the skills and knowledge to analyse organisations and make management decisions relating to the organisation's IT.

Learning Outcomes
At the completion of this course students will be able to:

1. Discuss and analyse practices associated with managing and structuring ICT services within an organisation
2. Recommend and design a service continuity plan for an organisation
3. Apply best practice human resource management techniques
4. Develop and recommend strategies and plans to improve an organisation's IT service

Content

- IT Service Management best practice and frameworks
- Workforce Management Incident Management
- Service Desk
- Information Security Management
- Service Continuity Management
- Strategy Management
- Contemporary and emergent technologies

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	25%	3	Gain a minimum of 50% overall
Assessment Two	25%	2	
Assessment Three	50%	1, 4	

Off Campus Learning

Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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I321 ADVANCED SYSTEMS ANALYSIS

Course Level	7
Credits	15
Duration	30 Lecturer supported learning hours 120 Independent learning hours
Pre-requisite	I221
Co-requisite	none

Course Aim
To introduce tools and techniques used to assess feasibility and present a business case; to complete an analysis of a complex information system based on the recommendation from the feasibility phase.

Learning Outcomes
At the successful completion of this course students will be able to:

1. Undertake a feasibility study to recommend a solution to business problems
2. Present a business case to project stakeholders
3. Develop a model of the proposed complex system
4. Implement quality processes to ensure accuracy of analysis and design documentation

Content

- Assessing Feasibility
  Examples may include: candidate systems, economic feasibility, technical feasibility, schedule feasibility, operational feasibility
- Creating a convincing business case
- Business Process Automation
- Business Process Improvement
- Business Process Re-engineering
- Alternative process mapping techniques
  Examples may include: IDEF0, ASME
- Quality processes
  Examples may include: version control, model checking, inspection, CASE tool use

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL's learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

Assessment Procedures
Assessment is achievement based.
321 Advanced

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	30%	1, 2	

Assessment Two	40%	3, 4	Gain a minimum of 50% overall
Assessment Three	30%	1, 3, 4	

Off Campus Learning
Refer to Section 1.12.

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

I309 SPECIAL TOPIC

Course Level	7
Credits	15
Duration	30 Lecturer supported learning hours 120 Independent learning hours
Pre-requisite	240 credits including all compulsory level 5 and 6 courses
Co-requisite	none

Course Aim
To allow students to pursue an area of special interest under the guidance of a UCOL academic staff member. The Special Topic course is subject to availability and approval from the Head of School.

Learning Outcomes
At the completion of this course students will be able to:

1. Explore a new or additional topic which will extend skills to a higher level

Content

- Dependent on special interest topic.

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL's learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

Assessment Procedures
Assessment is standards-based and achievement is described by grades. This course will have a minimum of three and generally a maximum of five pieces of assessment. A student must achieve a C grade (50-54) or higher in order to successfully pass this course.

The specific assessments will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Assessment activities will be selected from the following range: theory test, practical test, practical demonstration, project, assignment, exercise, interview, debate, report, portfolio, presentation, journal.

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
As each topic is unique, students will use experience gained throughout the degree to source their own specific resources. The supervising lecturer will also provide additional guidance on resources relevant to the topic.

T301 NETWORK DESIGN

Course Level	7
Credits	15
Duration	30 Lecturer supported learning hours 120 Independent learning hours
Pre-requisite	I101 and T201
Co-requisite	none

Course Aim
To recommend network and service architectures and to design and implement, or simulate chosen architectures. Students will be able to analyse and evaluate network designs, select an appropriate technology and design for a given situation, and justify their selection.

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

1. Assess and recommend appropriate network hardware and configuration/s for given scenario/s
2. Assess, evaluate and recommend the deployment of virtualisation/cloud/containerised infrastructure
3. Assess and respond to infrastructure requirement change/s
4. Implement network/virtualisation/cloud/containerised infrastructure for given scenario/s

Content

- Automated network and service provisioning and management
- Installation and configuration of thick and thin client technologies
- Installation and configuration of a network simulator
- Installation and configuration of virtualised infrastructure
- Configuration of cloud infrastructure
- Business continuity planning
- Network design and documentation

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL's learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	30%	1, 3, 4	Gain a minimum of 50% overall
Assessment Two	45%	1, 2, 3, 4	

Assessment Three	25%	1, 2, 3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

T302 CISCO SCALING & CONNECTING

Course Level	7
Credits	15
Duration	30 Lecturer Supported 120 Independent learning hours
Pre-requisite	T206
Co-requisite	none

Course Aim
To gain practical and technical networking knowledge that will assist in designing, building and analysing networks and their protocols using advanced technologies.

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

1. Configure and troubleshoot routers in a complex routed IPv4 or IPv6 network using single area OSPF
2. Describe different WAN technologies and QoS mechanisms
3. Describe the operations and benefits of virtual private networks (VPNs) and IPSec
4. Configure, and troubleshoot Access Control Lists (ACLs)
5. Configure, and troubleshoot Network Address Translation (NAT) for IPv4
6. Describe enterprise-scale network-management techniques including software-defined networking, virtualisation, monitoring and automation

Content
The CISCO Network Academy (CNA) Scaling and Connecting Networks curriculum:

- Single-Area OSPF concepts
- Single-Area OSPF configuration
- Security concepts
- ACL concepts
- ACL configuration
- Network Address Translation for IPv4
- WAN concepts
- VPN and IPSec concepts and configuration
- QoS concepts
- Network management concepts and configuration
- Network design concepts
- Network troubleshooting
- Network virtualisation
- Network Automation

Learning and Teaching Approaches
The course may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web based technology, email and telephone. This will enhance the opportunity for students to access learning materials, communicate with one another and with their lecturers.

UCOL's learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access all possible assistance so that they can succeed at their chosen course of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

Assessment Procedures

Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	15%	1, 2, 3, 4, 5, 6	Gain a minimum of 50% overall
Assessment Two	45%	1, 2, 3, 4, 5, 6	
Assessment Three	40%	1, 2, 3, 4, 5, 6	

Off Campus Learning
Not applicable

Resources and Prescribed / Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

T311 SYSTEMS ADMINISTRATION

Course Level	7
Credits	15
Duration	30 Lecturer supported learning hours 120 Independent learning hours
Pre-requisite	T211
Co-requisite	none

Course Aim
To provide the ability to design and construct a complex multi-user client/server network. Students will gain skills needed to configure and integrate complex systems.

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

1. Configure and administer multi-user implementation of a client/server network
2. Implement strategies that will ease administrative burden
3. Implement remote administration of central services

Content

- Client/Server configuration using current operating systems such as Windows and Linux desktop and server editions
- Automating administrative tasks such as creating users and log file checking
- Management of system policies
- Configuring various application deployment techniques
- Automating administrative tasks through scripting
- Centralised authentication of various software and operating systems

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL's learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	35%	1, 2, 3	Gain a minimum of 50% overall
Assessment Two	35%	1, 2, 3	
Assessment Three	30%	1, 2, 3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

T312 NETWORK SECURITY

Course Level	7
Credits	15
Duration	30 Lecturer supported learning hours 120 Independent learning hours
Pre-requisite	T206
Co-requisite	none

Course Aim
To enable students to understand and configure the components, and operation of Virtual Private Networks, firewalls and network security.

Learning Outcomes
At the successful completion of this course students will be able to:

1. Explain the operation of Virtual Private Networks (VPNs), firewalls, router security, switch security and network security
2. Configure and troubleshoot Virtual Private Networks (VPNs)
3. Configure and troubleshoot Firewalls
4. Analyse, configure and troubleshoot router and switch security in an IP network

Content
- Virtual Private Networks
- Cisco CCNA Security
- Network security threats
- Securing network devices
- Authentication, Authorisation and Accounting (AAA)
- Firewall technologies
- Network security
- Intrusion prevention systems (IPS)
- Cryptographic Systems
- Cisco ASA
- SBA Practice

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL's learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

Assessment Procedures
Assessment is achievement-based

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	10%	1, 2, 3, 4	Gain a minimum of 50% overall
Assessment Two	45%	1, 2, 3, 4	
Assessment Three	45%	1, 2, 3, 4	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

I304 DATA ANALYTICS AND INTELLIGENCE

Course Level	7
Credits	15
Duration	30 Lecturer supported learning hours 120 Independent learning hours
Pre-requisite	D211
Co-requisite	none

Course Aim
To enable students to use data analytics and business intelligence tools and techniques in order to provide decision support within an organisational context

Learning Outcomes
At the successful completion of this course students will be able to:

1. Demonstrate how data analytics techniques and tools are used to support business decision making
2. Apply data analytics tools and techniques on organisational data
3. Provide meaningful representation of organisational data

Content

- Data analytics
- Business intelligence tools
- Visual data representation
- Data exploration
- Decision support reporting
- Big data
- Power Pivot
- Power BI
- SSRS, SSIS, SSAS

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	40%	1, 2, 3	Gain a minimum of 50% overall
Assessment Two	30%	1, 2, 3	
Assessment Three	30%	1, 2, 3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and

other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

I311 ADVANCED WEB SOLUTIONS

Course Level	7
Credits	15
Duration	30 Lecturer supported learning hours 120 Independent learning hours
Pre-requisite	I213
Co-requisite	none

Course Aim
To enable students to investigate, implement, and critique influential, new, and emerging web technology solutions

Learning Outcomes
At the successful completion of this course students will be able to:

1. Demonstrate advanced understanding of new, emerging, and influential web technologies
2. Investigate and critically present on a new or influential web technology
3. Develop systems demonstrating advanced application of new or influential web technology

Content

- Server-side languages
- Client-side languages
- Web presentation frameworks
- Development frameworks and libraries
- Everything as a service
- Data security
- Traffic Analysis Tools
- Content management systems

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	25%	1	Gain a minimum of 50% overall
Assessment Two	30%	2	
Assessment Three	45%	3	

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and

other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

I367 ADVANCED PROJECT MANAGEMENT

Course Level	7
Credits	15
Duration	30 Lecturer supported learning hours 120 Independent learning hours
Pre-requisite	I202
Co-requisite	none

Course Aim
This course will enable the student to learn advanced principles of the project management body of knowledge and cover the content of the Project Management Institute PMBOK® and its application and evaluation to the workplace

Learning Outcomes
At the successful completion of this course students will be able to:

1. Discuss how project management process groups and processes are used to manage projects
2. Evaluate the project environment, and identify the factors that may impact the outcome of a project
3. Consider the role of the project manager and their sphere of influence.
4. Consider the purpose, key concepts, inputs, and outputs for each project management knowledge area.
5. Integrate the techniques defined in the knowledge management areas to solve project management problems.
6. Create key project management plan components, and project documents.

Content

- Project Management Framework
- Project Environment
- Role of the Project Manager
- Stakeholder Management
- Integration Management
- Scope Management
- Schedule Management
- Cost Management
- Quality Management
- Resource Management
- Communications Management
- Risk Management
- Procurement Management

Learning and Teaching Approaches
The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

Assessment Procedures
Assessment is achievement based.

Assessments	Weightings	Learning Outcomes Assessed	Pass Criteria
Assessment One	30%	1, 4, 5, 6	Gain a minimum of 50% overall
Assessment Two	40%	1, 2, 3, 4, 5, 6	
Assessment Three	30%	1, 4, 5, 6	

Off Campus Learning
Not applicable

Learning and Teaching Strategies
This course is delivered by lectures, and through blended delivery.

Off Campus Learning
Not applicable

Resources and Prescribed/Recommended Texts
Project Management Institute (2018) *A guide to the project management body of knowledge: PMBOK guide* (6th ed.). Newton Square, PA. Project Management Institute.

5.0 APPENDICES

5.1 Programme Approval Records

The degree programme was approved by Manawatū Polytechnic's Academic Board on 22 November 1993 and by NZQA on 1 December 1993. All approved changes are recorded in the programme file held by Curriculum and Academic Services.

As a result of a large number of approved minor changes to the programme in 2001, the curriculum was reformatted and updated to consolidate the changes and ensure the regulations met current UCOL academic requirements. The revision did not constitute any significant change to the programme itself, but identified the need for five additional minor changes. These were: changes to requirements for contract papers; limit to withdrawal period without academic penalty introduction of IELTS entry requirement; formal recognition of cross credit with Certificate in Computer Support Level 5; allocation of levels to exit awards. The revised curriculum document was audited in line with programme approval processes and, with the additional minor changes, approved by the Academic Approvals Committee on 4 February, 2002.

The revised curriculum document for 2002 was reissued as Version 1.1. Version 1.1 still required the recommended reading list (Appendix 1) to be updated and correctly formatted; this was done, and the amended curriculum was reissued as Version 1.2.

The Faculty of Humanities and Business Board of Studies (HuB FBoS) approved cross credits with National Diploma in Business Computing, Diploma in Business Computing and Certificate in Business Computing on 17 May 2002. The cross credit list was included in the curriculum, which was issued as Version 1.3.

Academic Board approved IELTS (or equivalent) levels on 18 February 2002 and these have been included. The amended curriculum was issued as Version 1.4

Academic Board approved the removal of Introductory Certificate in Business Computing – Level 3 as an entry qualification into BICT (Applied). This ambiguous wording suggested that students who had completed ICBC could gain entry into the degree programme, when the intention is that they require CACU Level 4 or higher. Further, the Academic Board approved inclusion of T290 Internet Administration to complement existing papers and give students more flexibility of choice among optional papers in Year Two. The amended curriculum was issued as Version 1.5.

Faculty Board of Studies approved minor changes to I301, O150, O260, O312 at the meeting of 28 November 2002. The amended curriculum was saved as Version 1.6.

In 2003 numerous changes were made to the programme (see paper copies). The amended curriculum was saved as Version 1.7.

The Academic Board approved the entry requirements, selection criteria and advice and guidance for programmes to be offered in 2005 in June 2004. These were amended in the curriculum document. At the same time, Section 3.1.1 'Assessment in Te Reo Maori' was added. The curriculum was issued as Version 1.8.

Amendments to Section 3 of the curriculum were made following approval of the change to achievement-based assessment.

In 2004 Academic Board approved the inclusion of grades for the programme. The grading system is **not** as specified in UCOL Academic Statute 2005.

In September 2005 blended delivery was added to section 1 of the document. AAC approved revisions to papers T120, T300 and a new paper T201 was approved at AAC in September 2005.

The paper T201 Network Management was added to the Certificate in Computer Networks, replacing T300 Advanced Network Management. The curriculum was issued as Version 6.1.

The March 2006 meeting of the Academic Approvals Committee approved the embedded programmes and exit awards for the Certificate in Information Systems Level 5, the Diploma in Internet Commerce Level 5, Diploma in Information Systems Level 5 and the Diploma in Information Systems Level 6 as stand-alone programmes.

At the August 2006 meeting Academic Board approved the following changes to the entry requirements for 2007 academic year: the deletion of all references to Bursary.

In September 2006 the following changes were approved at the AAC.

The Level 5 paper "I170 eCommerce Principles" will now be called "I170 Internet Fundamentals".

The Level 6 paper "I280 Internet Web Design" will now be called "I280 Internet Commerce.

Offer T201 Network Management in Semester One and specify it as a prerequisite for T280 Network Security. As a result of this change, move the delivery of T280 from Semester One to Semester Two. The curriculum was reissued as Version 7.1.

In September 2007 the Academic Approvals Committee approved the following changes:

1 Change the name of the Diploma in Information Systems Level 5 programme and exit award to:
   - Diploma in Information and Communications Technology (Applied) L5.

   Change the name of the Diploma in Information Systems Level 6 exit award to:
   - Diploma in Information and Communications Technology (Applied) L6.

2 Change duration of semesters.

3 Change from 10 to 15 credit papers as appropriate throughout.

4 Replace the four main topic threads with three topic threads as follows:
   - Information Management
   - Technology
   - Software Development

5 Remove all references to Contract Papers within the curriculum.

6 Add details regarding the opportunity for students to complete Elective Papers from another degree programme or Special Topic Papers for the purpose of pursuing an area of special interest.

7 Remove the now redundant "Exemption from a compulsory paper" section.

8 Remove the now redundant assessment section regarding the I399 project.

9 Update the requirements of the award section in line with the new credit requirements and exit points.

10 Delete repetition of grading award scales.

11 Update the names of the diploma awards to align with the name of the degree.

12 Update the entry requirements section.

13 Delete repetition from the entry and exit points.

14 Update the cross credits section.

15 Update the unspecified credits information.

16 Insert information regarding the conditions for extensions or penalty for late submission.

17 Delete information stating which institutions are currently involved in external moderation.

18 Delete references to textbooks and recommended reading lists.

19 Change all references to Information Systems industry, Information Technology (IT) industry or Information Systems Professional to Information and Communications Technology (ICT).

20 Update Pathways Diagram.

In addition, the curriculum was updated to correct typographical errors and provide clarification to matters without changing the content. For example, reference to UCOL's policy and procedures was added to the Degree Monitoring section. The words "Head of Faculty" was changed to "Head of School" throughout as were "modules" to "papers" and Section 5.0 "Other Relevant Information" (previously omitted) was added.

The following generic changes were also made to this curriculum for dissemination in 2008: revision of copyright details, insertion of an outcome statement (KiwiQuals) in Section 1.4.1; deletion of 'Entry Profile' from Section 1.5; transfer of Section 1.9 approval details to a newly created, 'Appendix One'; addition of embedded qualifications to the Advice and Guidance Section; deletion of Section 2.7 'Credit Transfer' and inclusion of 'credit transfer' details in the RPL Section; deletion of Section 2.9 'Flexible Delivery'; change of Section 3.0 heading; change of title from 'Programme Evaluation' to 'Evaluations' and replacement of information in this section; Note: the curriculum template

detailing the above changes was approved by the Director Academic Development in November 2007.

This curriculum was issued as Version 8.1 in January 2008.

The following generic changes were made to this curriculum for dissemination in 2009: replacement of information in Section 3.3.1 Assessment in Te Reo Maori, amendment to all occurrences of the 'Stakeholder Advisory Committee' to 'Stakeholder Engagement Group'. A statement was also added to Sections 1.13 and 2.8 regarding health and safety and student exclusion. Note: the curriculum template detailing the above changes was approved by the Director, Academic Development in November 2008.

In July 2009 the Academic Approvals Committee approved the deletion of the 'Certificate in Network and Desktop Support' as an entry requirement option in the Bachelor of Information and Communications Technology Level 7. The certificate is no longer relevant as an entry requirement because the four papers that make up this qualification are now offered as part of the first year of the degree.

This curriculum was issued as Version 9.2 in July 2009.

In December 2009 the Faculty Board of Studies approved an updated version of the School of Business and Computing Programmes Pathways Diagram.

At the same time as this was added to the curriculum a note was added to Section 1.4.3 regarding the newly created opportunity for graduates to enrol in the Graduate Diploma in Information and Communications Technology (Applied) L7 (Computer Networks or Software Development. The reference to Year 1 of the degree being offered at Wairarapa was deleted from Section 1.8 because this programme will not be delivered in this region in 2010. A note was added that the programme may be offered at any other approved UCOL site in the future.

In December 2009 the Academic Approvals Committee approved the following changes:

- Deletion of variances to UCOL's UCOL Academic Statute, including:
  - academic penalty for students withdrawing after ten weeks of the start of a paper
  - the grading system
- Addition of a statement in each paper descriptor to clarify the passing grade (50-54 or higher) in order to successfully pass each paper
- Identification of the maximum number of assessment pieces (generally 5) for each paper
- Amendments to the content and/or learning outcomes in the following papers:
  - I101 Information and Communication
  - I201 Organisational Systems
  - I211 eCommerce Systems
  - D201 Advanced Programming
  - T201 Network Services
  - T211 Systems Security

The following generic changes were made to this curriculum for dissemination in 2010: the contents page and some section headings were updated to conform to the curriculum template; Sections 1.4, 1.10, 3.2 and 3.4 were changed to conform to the curriculum template; the reference to policy D07-P01 in Section 1.13 was removed; information in Section 2.4 was replaced; the statement regarding a student's record of learning was added to Section 2.6; Section 2.8 Student Exclusion was deleted; the information in 3.2.3 "Academic Appeals" was replaced; and the information in Section 3.5 was replaced.

The above changes are part of a wider curriculum template update, which were approved by the Director, Academic Development in November 2009. It is noted that this particular curriculum might not be wholly aligned with the revised template; however, as an already approved programme, this remains as the definitive document.

As part of a wider curriculum template update for 2011, the heading for Section 1.12 'Off Campus Learning' was changed to 'Practicum or Work Experience Hours' and a generic statement regarding students engaging in educational visits was inserted; the word 'completed' was added to Section 2.4 'Selection Criteria' as follows: '…receipt of *completed* enrolment …'; and Section 2.6 'Entry and Exit Points' was revised to include the following generic statement: 'Students who successfully complete at least one paper will be issued with a UCOL Academic Record showing the results of all papers in which they enrolled'.

In March 2011, it was noted that the Certificate in Networking and Desktop Support, Level 5 is no longer offered. Therefore, every reference to this qualification was deleted from the curriculum. This included occurrences in the following areas: Pathways Diagram, and Section 2.7 'Recognition of Prior Learning'. In the RPL section, a standard and more generic statement was added, 'Students may apply … relevant policies and procedures'.

This curriculum was issued as Version 11.2 in March 2011.

On 30 August 2011, the Academic Approvals Committee approved the addition of I101 'Information and Communications' as a prerequisite paper for 2 third year papers: D301 'Software Engineering' and T301 'Network Design'.

This curriculum was issued as Version 11.3 in February 2011.

A paragraph in Section 1.12 was transferred to the more relevant Section 1.13 'Health and Safety'. Section 1.4 was modified to show Education and Employment Pathways according to NZQA requirements. Section 3.5 was updated to the current curriculum template for 'Evaluation'. This curriculum was issued as Version 12.1 in January 2012.

In December 2012, AAC approved the following changes:

- I101 Information and Communication: title change to I101 Information Systems, learning outcomes and content added from I201 Organisational Systems (and subsequent deletion of I201)
- I303 Managerial Practice: Prerequisite of I201 replaced with I202 IT Project Management as a co-requisite or pre-requisite
- I203 Digital Multimedia: a new optional Level 6 paper was added

At this time, changes were made to align this document with the current UCOL curriculum template: Section 1.4 was renamed 'Outcome Statement'; 'Special'

was deleted from the heading and the words 'or be working towards' were added to Section 1.10; the words 'in the current academic year' were added to Section 2.6; the word 'Planned' was removed in regard to Table 1.11; the out-dated Transition Plan was deleted; 'no assessment undertaken' was added next to 'F Ungraded Fail' in the grading system table in Section 3.1; 'Turnitin' in Section 3.1.4 was removed to avoid naming specific plagiarism software details; wording was updated in Section 3.4.1 and 3.4.2 as was the wording in Section 3.6.

In January 2013, a minor error was detected and amended in Section 3.1 Assessment Philosophy and Methodology. "Assessment in this degree is standards-based" was amended to read "Assessment in this degree is achievement-based". The curriculum was issued as Version 13.1 in January 2013.

In June 2013, two minor spelling errors were corrected: T201, LO7 "fire wall" was changed to read as one word "firewall" and in T311, LO3 "divers" was change to "diverse". The curriculum was issued as Version 13.2 in June 2013.

On 13 December 2013, the Academic Approvals Committee approved the following significant changes to the CISCO courses in the Bachelor of Information and Communications Technology, (Applied), Level 7; Graduate Diploma in Information and Communications Technology, (Computer Networks), Level 7; Diploma in Information and Communications Technology, (Applied), Level 6:

- Replacement of T203 CISCO 1 & 2 with T205 Networks (CISCO ITN) and T206 Networks (CISCO RSE)
- Removal of T204 CISCO 3 & 4
- Addition of T302 CISCO Scaling and Connecting Networks, Level 7

A Transition Plan to cater for the above changes was added; the "60 specified BICT credits" for the Certificate in Computer Networks (Section 2.1 Requirements for the Award of this Qualification) was amended to show the replacement courses; the list of "Courses" was updated and the relevant Course Descriptors were replaced.

It was noted at this time that the Transition Arrangement had been an erroneously deleted. The plan was reinserted into Section 2.8.1. Also, as per generic update requirements (January 2103) the heading 'Aegrotat Passes' and the wording below this was replaced in Section 3.3.

The 2013 content from this section was transferred to Programme Approval Records.

The curriculum was issued as Version 14.1 in January 2014.

In June 2014, UCOL undertook an internal review of all entry requirements for level 7 and above programmes. Academic Board (10 June) approved the change to curriculum entry requirement statements pertaining to International Students to align programme requirements with those stipulated by NZQA Rule 18.

The revised curriculum was issued as Version 14.2 in July 2014.

Section 3.0 was updated to include specific information on self-assessment processes and practices.

In October 2015 the Faculty Board of Educational Improvement approved a Type One change which included the addition of a table containing Elective information to follow Table 1.11 Programme Structure and a minor change to wording.

The revised curriculum was issued as Version 15.2 in October 2015.

In 2015 the Faculty Board of Studies was renamed the Faculty Board of Educational Improvement. All references in the curriculum to the Faculty Board of Studies has been replaced with the Faculty Board of Educational Improvement up to but not including Section 6.1 Programme Approvals Record.

In November 2015, NZQA approved updates to UCOL's entry requirements for qualifications at level 7 to meet NZQA's University Entrance outcomes. The requirements are to take effect for new enrolments from Semester 2, 2016.

In November 2015 the Faculty Board of Educational Improvement approved the following Type One changes:

- Update to I301 Professional Practice's course aim, content and learning outcomes.
- The addition of a new optional Level 6 course, titled 'Industry Placement' to allow students to gain academic credit through cooperative work integrated education

The revised curriculum was issued as Version 16.1 in January 2016.

In December 2016, the Faculty Board of Educational Improvement approved the following Type One changes:

- Addition of a resit provision
- Change D211 Database Development and I221 Systems Analysis and Design from compulsory Level 6 courses to optional courses.

In July 2017 changes to programme were made:

- Update aim and learning outcomes for eight Level 5 course descriptors to align with New Zealand Diploma in Information Technology Technical Support (Level 5)
- Update course descriptor for I221 Analysis and Design to reflect current practices in ICT systems analysis design
- Addition of five elective courses; two at Level6 and three at Level 7 which reflect new areas of specialisation within the ICT industry
- Change to pre-requisite for D202 Software Process

The revised curriculum was issued as Version 17.2 in July 2017.

July 2017: Removed from Entry Requirements:

If under 20 years of age at the commencement of the programme, at least 42 credits at Level 3 or higher on the NQF. At least 14 of these credits must be from each of two subjects from the approved list. The remaining 14 credits must come from no more than two additional subjects. Also, at least 14 credits at Level 1 or higher in Mathematics or Pangarau, and at least 8 credits at Level 2 or higher which show reading and writing skills in English or Te Reo Māori.

OR

2 Special Admission is available to those students who successfully complete the Certificate for Advanced Computer Users, Level 4 or equivalent qualification.

OR

3 On a case-by-case basis upon application to the Head of School.
The revised curriculum was issued as Version 17.3 in July 2017.

All programme information from Section 1.8 Programme Approval was moved to Section 6.1 Programme Approvals Record

The revised curriculum was issued as version 17.4 in July 2017

Generic changes made to curriculum in November 2017 in readiness for 2018. Included was the update of the pathway diagram to reflect the post MRoQ programmes and the removal of the exit awards which ae expired qualifications.

The revised curriculum was issued as 18.1 in November 2017.

In March 2018 the Faculty Board of Educational Improvement approved the addition of course – T312 Network Security.

The revised curriculum was issued as version 18.2 in March 2018.

In August 2018 NZQA approved the change of title to the degree removing the suffix (Applied), and the addition of 8 majors to the BICT with retention of the unendorsed option for the degree. The pre-requisite for T206 was changed from T205 to T101.

The revised curriculum was issued as version 19.1 in August 2018.

In December 2018 the Faculty Board of Educational Improvement approved changes to learning outcomes and the addition of assessment patterns for a number of courses. Additionally, the following changes were approved:

- change of course title was approved for D303 from Java Mobile and Web to Mobile Application Development
- D311 replaces T301 as a compulsory course in the Systems Administration major
- T211 replaces T205 as a compulsory course in the Network Engineering major
- Change of pre-requisite for T312 to T206
- Addition of D202 as an alternative pre-requisite to D201 for D301

The revised curriculum was issued as version 19.2 in December 2018.

In May 2019 the HUB FBEI approved updates to content, learning outcomes, and assessment pattern for the Advanced Project Management Course.

The revised curriculum was issued as version 19.3 in June 2019.

In July 2019 the HUB FBEI approved further updates to the learning outcomes, content, and assessment pattern for the L6 Project Management course.

The revised curriculum was issued as version 19.3 in July 2019.

The revised curriculum was issued as version 20.1 for delivery in 2020.

In October 2020 NZQA approved a change to the annual program length from 32 tuition weeks per year (16 weeks per Semester) to 34 tuition weeks per year (17 weeks per Semester) plus 7 weeks holiday.

The revised curriculum was issued as version 20.2 in October 2020.

In November 2020 FBEI approved changes to the learning outcomes, content and assessment tables for Level 5 courses to align with the NZ Diploma in ITTS courses.

In January 2021 FBEI approved changes to the learning outcomes, content and assessment tables for multiple L6/7 courses. These changes were needed to align with the Grad Dip in ICT as the courses are shared, and to reflect current practice.

In January 2021 FBEI approved a minor change to assessment weightings for course I301.

In January 2021 the curriculum was updated for the 2021 year with new logos, revised wording for the plagiarism statement and revised footers.

On 11 February 2021, the Faculty Board of Educational Improvement approved changes to assessment table for course I321 Advanced Systems Analysis and minor change to Aim and assessment table for course T301 Network Design.

The revised curriculum was issued as version 21.1 for delivery in 2021.

On 07 May 2021, minor errors in the text were corrected, including:
Wording in Section 1.12 – changing '400 hours' to '435 hours' in line with the Table 2.9 and I302 course descriptor; changing 'Table 1.1' to 'Table 2.9' (the correct table title); the removal of the words 'in Semester Two of each year' under 'Identification and allocation of projects' as the course can be run in either semester.

The revised curriculum was updated as version 21.2 for delivery in 2021.