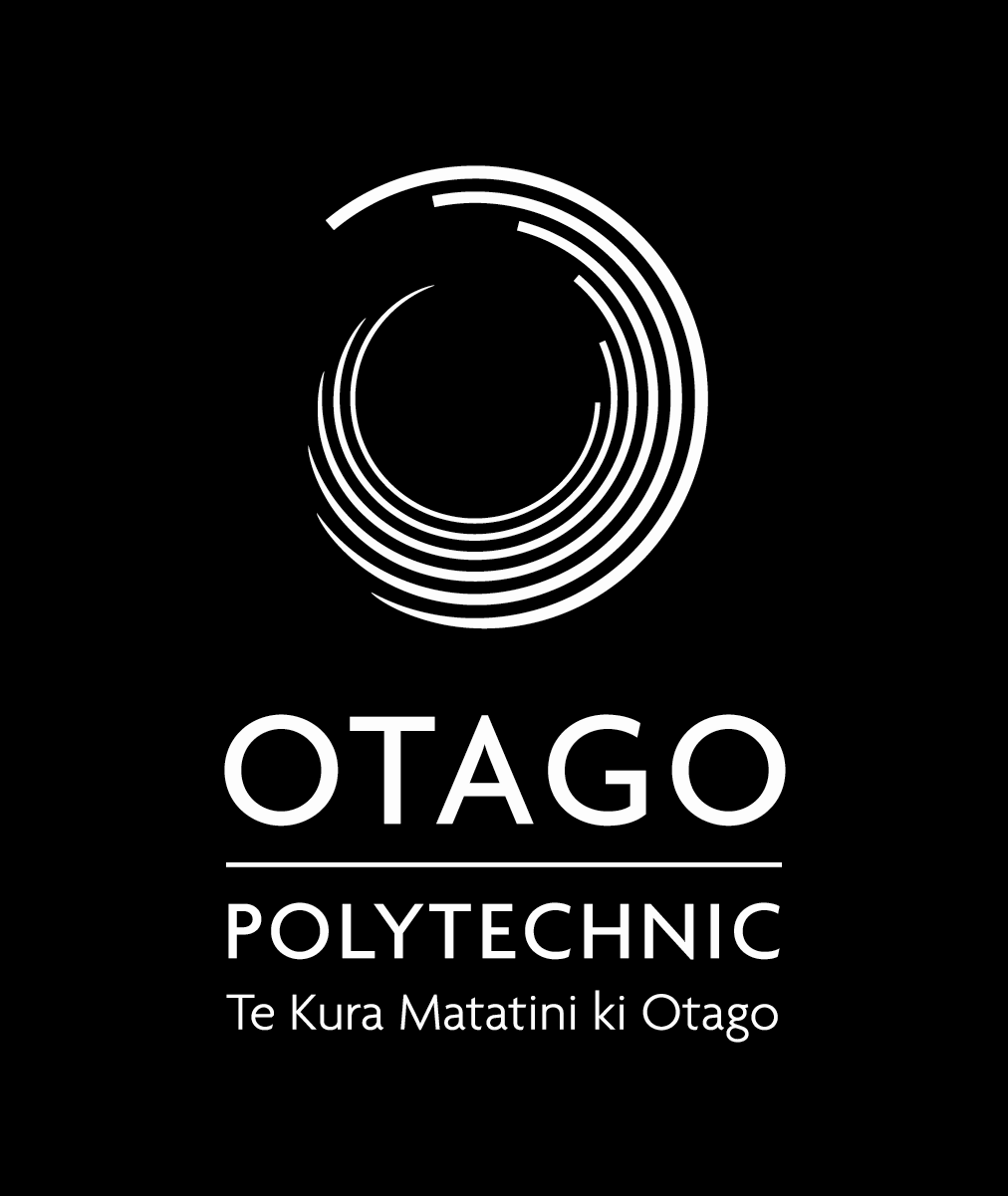
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Programme Document

Qualification Title: Bachelor of Information Technology  
Programme Title: Bachelor of Information Technology

School of Information Technology

Colleg of Enterprise and Development

Version

October 2016

Otago Polytechnic [2016]

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# PROGRAMME STRUCTURE AND OUTCOMES

## Rationale:

This update is part of the normal five-year review cycle, and is informed by participation in the D4LS review.

## Programme Philosophy and Background

*Our commitment is to deliver an information technology educational programme that is inclusive, up-to-date, tailored to the individual, industry-focussed, and which rests on a firm foundation of professional ethics and societal responsibility.*

Information technology is ubiquitous in modern society, touching nearly all industries, institutions and communities. We can therefore best serve by providing an inclusive educational experience that is effective for a wide range of students, producing graduates with a variety of experiences, skills, interests and perspectives.

To enable us to provide a sufficiently broad pedagogical environment, we require a breadth of knowledge and skills in our teaching staff. To insure that we produce quality, work-ready graduates, each staff member must constantly strive to maintain the highest levels of discipline currency in his or her area of specialisation. At the same time, lecturers have a strong pastoral responsibility to each student. As much as possible, lecturers should strive to tailor the educational experience to each student’s individual needs.

We offer a practical, applied degree with a primary focus on preparing our graduates for immediate employment at a professional level. While acknowledging the value of the theoretical foundations of information technology, we believe that its primary role in our degree is to support the acquisition of practical skills and to establish a framework for lifelong learning. Our emphasis is therefore on "learning through doing", with pedagogical strategies that emphasise application of knowledge and reflect, as much as possible, the standards and practices of the work environment.

Information technology is a service discipline. Information technology professionals best benefit the wider community when their primary motivation is to understand and adapt to the needs of the client. This ethos is reflected throughout our curriculum in an emphasis on professional ethics and issues of environmental, social, cultural and personal sustainability. Our goal is for our graduates to be able to make decisions that reflect an understanding of the responsibility that they have for those around them.

### Integration of Institutional Frameworks

**Learning and Teaching**

The BIT curriculum is applied, industry-relevant and current. Our pedagogical techniques are engaging and practical, with theoretical material contextualised in the real-world IT environment. Our teaching approach is individualised and highly pastoral; each student's strengths are nurtured and respected. The resulting programme is attractive to, and effective for, students from an unusually wide range of interests, academic backgrounds, and life stories. Students receive a rich and unique educational experience, and upon graduation can have a firm expectation of being ready to take their places in the professional IT community.

The Otago Polytechnic Bachelor of Information Technology is one of three IT baccalaureate degrees available locally. Our degree is distinguished from the other two by its unwavering focus on high-end technical skills and industry-relevance. Our staff maintain constant contact with industry professionals and use their feedback to inform the design of the programme as a whole and the content of individual papers. Technical papers are updated regularly to insure that the course material accurately reflects the state of the rapidly changing IT industry. The theoretical underpinnings of computer science are recognised as essential, but specifically to the extent that they support the acquisition of industry-relevant practical skills and provide a structure for the independent self-education that is required of a modern IT professional throughout his or her career.

Our main pedagogical approach embeds the didactic presentation of theoretical content in applied, practical skill-building. For example, a typical class session for an introductory programming paper would comprise a brief presentation of a syntactic feature, followed by a series of in-class programming exercises using that feature. Students complete the practical exercises with the direct, hands-on support of the lecturer. As students move through more advanced programming training, the content and the exercises become increasingly complex and greater independence is required, but the core model remains: theory contextualised in practice, experiential, skill-focussed learning, guided and supported directly by the lecturer.

Course materials and techniques are designed to prepare students for the life of an IT professional. For example, students learn Systems Administration[[1]](#footnote-1) skills by performing them on actual (albeit virtual) sets of servers; students learn web design by building real web sites for real users; assessments designed as mock job interviews prepare students for the real interviews they will face upon graduation.

Similarly, from their first semester, students learn to use the digital tools and infrastructure that the industry uses. Our students use the same programming languages, development environments, digital version control tools, group work systems and online communication channels as do the majority of modern IT companies. Upon graduation, they are thus able to step into a real IT industry position and make a meaningful contribution from day one.

In addition to technical skills and familiarity with the tools of their future profession, our programme prepares students for the unique challenge of the IT industry -- the alarming speed of change. There are IT tools and systems that are ubiquitous today which did not even exist three years ago. And those tools may well be considered obsolete in another three years. It is essential, therefore, that our students not only master the content of their papers today, they must also learn *how to learn* -- efficiently, confidently and independently. We foster this by treating it like any other skill -- something to be modelled, discussed and practiced at increasingly advanced levels as the degree progresses. To achieve this, we embed independent learning components into practical work at all levels. In the first year, students may be asked to do online research of a particular topic, or to work through some carefully selected video tutorials. By their final year, students can be asked to independently come to grips with a new software library, new development environment, or even, a completely new programming language. Their exploration is supported by lecturers as needed, but the work is the students' own. They are expected to make mistakes and to sometimes take wrong paths. They are guided to resolve their own challenges and to reflect on the process -- just as they will have to do in industry.

A second key ethos of the IT industry is group work. Modern IT industries -- development, infrastructure and service -- all frequently use teams and team-oriented work protocols. To participate effectively on these teams, students must master two areas: the formal methodologies of IT group work (e.g. "agile development") and the general personal skills that make one an effective team member (e.g. active listening, clear oral communication, conflict resolution). Our programme aims to foster both aspects through didactic presentation of the components of the formal protocols and frequent real group work, monitored and supported by experienced lecturers, throughout the degree. From the introduction of "paired programming" in their first semester, to the year-long team-based development project in their third year, our students are shown that group work is as important, and as integral, as any technical skill.

To allow our programme to cover the wide spectrum of IT disciplines -- software, ops, infrastructure and hardware - we require a diverse teaching team. Our current teaching staff bring a rich range of academic and industry experience, and teaching and research skills. But for all members of staff, our students are the highest priority. Our staff understand that maintaining discipline currency, using the latest CS education research to inform our teaching practice, and providing a personalised, pastoral education to each student are non-negotiable requirements, in spite of the demands this places upon us in terms of course and materials preparation, and direct student/lecture interaction (both face to face and remote).

### Sustainability

In recent years, our position on sustainability has evolved from the early, somewhat naive focus on purely environmental issues (saving electricity through automatic computer shutdowns, correct disposal of eWaste, etc.) to a broader conception of sustainable systems as those which do not overconsume the resources -- physical, social and intellectual -- which they require to function. This focus is embedded into all aspects of the BIT curriculum.

In addition to being environmentally responsible, a sustainable IT industry must be ethically and societally responsible. Important issues include:

**The risk of built-in obsolescence:** The digital industries -- software and hardware -- release new models with frightening frequency. Each year new mobile phones are produced, new software is released, new development environments and libraries are published, and the consumer is assured that all these new items are essential. This leads to a rapid consumption and discard cycle that is wasteful and expensive. In the BIT we teach students to observe these commercial pressures with an analytical eye. For example, in our Mobile Software Development papers, we demonstrate that, with correct application configuration, it is actually very easy to write software that runs correctly on "old" devices. We teach them to look carefully at new ranges of "features" in software updates, and to distinguish between those that are of real value and those that are merely cosmetic. We vigorously promote resource-saving IT practices such as virtualisation (as opposed to physical hardware).

**Engaging in Open Source:** "Open Source Software" (OSS) describes code that is made public and may be used free of charge. Members of the "open source community" are encouraged to use OSS for their projects and to extend and contribute to open source code bases. OSS simultaneously makes software available to a range of users who might be unable to afford the high licensing costs of proprietary software, and leverages the skills of many thousands of programming students and professionals to strengthen and develop that software. The model is strong, pervasive and inherently sustainable as those who need to use the software are able to ensure that it continues to meet their requirements. Many influential software projects have been Open Source since their inception (e.g. the Linux operating system and the Android Mobile development libraries). Recently, even the venerable Microsoft -- long a "proprietary-only" vendor -- has made its Visual Studio development environment open source. The OSS movement is now so embedded in the industry that it is considered standard practice for programmers to include on their CVs links to their open source contributions.

In our programme we encourage participation in the Open Source community both explicitly and implicitly. For example, in 2016 we had a software engineer from Canonical (the Ubuntu arm of the Linux operating system project) speak to our students about how best to become involved in Open Source. We train students thoroughly in the tools they must use to make contributions to the OSS community (e.g. GitHub). Most importantly, we choose Open Source software whenever possible for use in our own classes.

**Social Issues in IT:** Sustainability in IT also involves a variety of non-technical issues. For example, to be sustainable, an industry must be diverse. An industry that does not include a wide variety of viewpoints and outlooks will become stagnant -- i.e. is not sustainable. We are therefore concerned about the known lack of both gender and ethnic diversity in the IT industry. We encourage discussion of these issues in our classes and, as much as is possible, strive to broaden our own diversity by ensuring that women and students of colour find an accepting and supportive home in our programme. A sustainable industry must be equitable. Thus we are concerned at the international "digital divide" where wealthy countries have access to IT facilities that developing countries do not. We encourage our students to be aware of this issue by, for example, teaching methods for web site development that make content available to the millions of users world-wide who have no smart phones or internet access (i.e. they use feature phones and cell transmission only). A sustainable industry must support the health and well-being of its participants. Thus we encourage our students to develop a clear concept of work-life balance, and to view the "real geeks are online 24-7" stereotype sceptically.

**Ethics in IT:** The growth in online storage of personal data -- financial, health, personal -- has introduced critical ethical concerns for IT professionals. We believe this is, in fact, a sustainability issue, in that to be sustainable, an industry must not be harmful. Our students are taught both the technical aspects of digital security and the professional aspects -- the ethical responsibilities of those who potentially have access to the private data of others. These issues are covered explicitly in our two Professional Practice papers (see course descriptors below) and embedded in every paper, along with related ethical concerns such as digital rights management, risks of anonymous discourse (trolling), and online safety.

Throughout the programme we endeavour to help students understand and internalise all precepts of ethical, sustainable and socially responsible behaviour to prepare them to become positive, contributing members of the IT industry, and modern digital society.

### Māori

In our programme, all students, of all social, cultural and ethnic backgrounds are to be treated with consideration and respect. These values are internalised most readily by students when modelled consistently by staff.

We also acknowledge a special responsibility to Māori under the Treaty of Waitangi and the Memorandum of Understanding between Otago Polytechnic and local iwi. Staff take part in classes and development workshops which prepare them to provide appropriate support for Māori students. Māori students are actively encouraged to participate in school processes, such as forums and discussion boards, and to express their cultural perspective through contributions in class and assignment work.

The general policies which have an impact on the cultural safety of all students are:

**Physical Environment:** An appropriate learning environment is provided, where workspaces facilitate good practice. Cultural practices such as not sitting on tables and separating eating from work are adhered to in the classroom as well as in staff spaces.

**Pastoral care:** Staff provide Māori students with pastoral care and support as appropriate to their situation and needs. We readily request guidance from personnel of the Office of the Kaitohutohu. Māori students are informed of all student support organisations at Otago Polytechnic including, but not limited to, Student Services, OPSA, Māori Student Support and Foundation Learning.

**Students at risk:** As a routine part of our programme delivery, all students are monitored carefully for signs of difficulty with the programme as reflected by, for example, absences or failure to complete assessments. Staff are proactive in encouraging student engagement in learning and establishing supportive interactions which benefit student learning.When appropriate, contact is made with Māori Student Support to request further assistance and interaction with individual students.

**Ceremonial structures:** Attendance of all students is encouraged at welcoming, graduation and other formal ceremonies in recognition of student community and accomplishment. Students are directed to Māori Student Support for information about additional cultural activities. Students are excused from classroom activities for attendance of culturally important events.

In addition to these general matters, we can consider specifically five fundamental principles identified by Smith (2000) as key to the success of Māori students in mainstream school settings. They are:

1. Rangitiratanga (chiefly control)
2. Taonga tuku iho (legitimisation of cultural aspiration and identity)
3. Ako (pedagogy based on reciprocal learning)
4. Whānau (the extended family group)
5. Kaupapa (in this context, the collective definition of educational excellence).

Recent work by one of our staff members (Holz, 2016) identifies the opportunities available for incorporating these principles into a modern IT education programme:

Rangitiratanga requires that learners have a degree of control over the educational process. Holz recommends the use of flexibly designed activities, where the learner has genuine input into the content and requirements. He emphasises the importance of "genuinely listening to and sharing views with learners". This includes our programme-wide emphasis on active practical work rather than didactic presentation of materials, our emphasis on group discussion in the classroom, as appropriate, negotiation of deadlines and requirements for assessments.

Taonga tuku iho (legitimisation of cultural aspiration and identity) is summarised by McGee & Fraser (2012) as the need for contexts where “to be Māori is to be normal, where Māori cultural identities are valued and legitimate" (p.187). To this end, Holz advises us to demonstrate overtly respect for Māori language, culture and beliefs. He suggests that the most affirming way to make this demonstration would be to use Te Reo in the classroom. While staff who are not fluent can obviously not be expected to deliver entire lectures in Te Reo, Holz notes that all staff can consider using Māori greetings, and striving for an authentic pronunciation of commonly used Māori words. In addition, all staff should “avoid culturally offensive behaviours, such as the touching of the head or sitting on a table”.

Ako (pedagogy based on reciprocal learning) relates closely to Rangitiratanga, in that both demand that learners be active participants in the educational process. Ako, however, imposes the additional requirement that respect is given *to the knowledge the learner already possesses.* That is, the new knowledge to be acquired in the classroom is not seen as inherently more valuable than knowledge which the learner has gained in his or her home, previous careers or other life experiences. Learning in the real world -- experiential learning -- is a valid as traditional, academic "book learning", and the knowledge of the student is as valid as the knowledge of the teacher. This principle fits comfortably within our applied framework and serves as a guideline for working with our unusually high proportion of mature learners. Holz notes the value of "smaller group work situations where [the teacher's] role becomes that of a facilitator who encourages inquiry". Further, he argues that this model is especially relevant in the preparation of work-ready graduates for a team-based industry such as IT, citing his own experience where he "worked as part of high performing teams where understanding and acknowledging the individualism of each member was paramount”.

Incorporation of Whānau (the extended family group) can be thorny in an adult education environment where, Holz notes “independence and self-determination are highly encouraged". Nonetheless, while fostering important professional skills such as being able to work effectively without oversight, and personal initiative in learning new materials, we can maintain the supportive environment which the Whānau exemplifies. In our programme, pastoral care is of the highest importance. We have an "open door" policy for all staff, whereby students are welcome to visit staff offices at any time, rather than only during set hours. We monitor student attendance carefully, especially in the first year, to identify any students who may be struggling with the demands of tertiary education and who need additional care and attention. We allow as much flexibility as possible to help students balance the needs of family and school. These efforts range from providing deadline extensions for students who must take time away from classes for family emergencies, to using online chat channels so students can ask questions from home after the kids are in bed, to keeping toys in our offices for those times when a small child needs to be brought along to a meeting with the lecturer.

Kaupapa (in this context, the collective definition of educational excellence) is a broad vision that rests upon a strong teacher-learner relationship. Our work gives us an important opportunity to contribute to this vision. Holz states: "As a lecturer in information technology, it is important that I am cogniscent that the skills and knowledge I impart are an important part of the collective vision Māori have for their whanāu, hapū and iwi to succeed in the modern world”.

As a school, our understanding of culturally safe and appropriate education is continuing to evolve. Our fundamental conviction is unchanged: each student is a valued member of our OP family, who deserves to be treated with respect, and to be supported in achieving all that he or she wants and is able to achieve. We understand, however, that there are special issues and responsibilities surrounding Māori education and we continue to explore ways to incorporate these principles into our daily teaching practice.

Holz, M. (2016) *title* In partial completion of....

McGee & Fisher…

Smith, G. H. (2000). Maori Education: Revolution and Transformative Action. *Canadian Journal of Native Education, 24*(1), 57.

### Research and Enterprise

After teaching and student support, formal research is the highest priority task of the staff of the BIT. At the time of writing, 90% (10/11) of full-time staff are engaged in formal research, and 85% (8/11) have had one or more quality-assured PBRF outputs in 2015/2016. We have ongoing research projects in computer science education, assistive technologies, multi-agent systems, digital tools for group interaction and collaboration, use of computer games for language instruction in primary schools, and the implementation of LoRaWAN networks for the Internet of Things. All staff with sufficient publications since 2012 (8/11; 85%) are preparing PBRF portfolios for submission in the 2018 round.

Staff research directly informs our teaching practice in two ways: First, many of our staff publish action research in computer education itself. That is, part of the research programme is the testing and analysis of specific classroom interventions, curricular manipulations, etc. Formal experimental methodologies and statistical tests of efficacy allow us to identify those approaches that are most useful for the teaching of complex and challenging subjects such as computer programming. Inclusion of these methods strengthens our work "at the coal face". Publication of our results allows us to share our knowledge with CS educators in New Zealand and internationally. Our CS education works has won awards (Wood, Parsons, & Haden, 2015) and numerous studies and teaching materials have incorporated our techniques (see Parsons & Haden, 2002; *Guzdial's stuff; some of the Ph.D. theses...*)

Second, students are able to participate in research activities through the 3rd Year Senior Project. Currently, both the Assistive Technology and LoRaWAN research programmes include teams of senior students, with a supervising staff member as principal investigator. Through this work, students acquire formal methodological skills, and more general experience with research as an act of intellectual inquiry.

Skills for structured knowledge search and exploration are intentionally incorporated into all 3rd Year projects, regardless of intended publication outcomes, as students are supported to perform literature reviews, data collection, and critical analyses of information. While most overtly placed in the 3rd year project, the value of information exploration is highlighted in all papers, across all years. For example, in Year 1 students do a number of small development projects where they are responsible for choosing and researching their project topics.

Throughout student-involved research, the BIT maintains an emphasis on community value and engagement. For example, students in our first Web Development paper build web sites for a local school, charity or small business. Current 3rd Year Projects are focussing on assistive technology, a mobile application to help users learn Māori vocabulary and another to aid visitors to the Dunedin Botanic Garden. In 2017, we are hoping to involve students in a project to improve scheduling of deliveries for Meals on Wheels volunteers.

Our goal is for students to become intellectually adventurous, independent learners who are aware of the impact of IT on society.

### Internationalisation

The information technology industry operates in a global environment, conducting business across physical and political boundaries. Students studying in this domain need to be prepared for the international and intercultural issues that may affect their work, whether in the context of development projects, team work or the competitive business environment.

The Bachelor of Information Technology curriculum has been developed with reference to international benchmarks such as the ACM Computing Curriculum (2008). This curriculum is designed to "facilitate the movement of professionals across nations." (ref)

Students are prepared for work in the international community through the use of modern software, modern industry protocols and global digital community participation through online communication tools and participation in the Open Source Software community.

Significant numbers of international students complete the Bachelor of Information Technology, with representation from India, China, the Philippines and the Pacific Islands. These students bring a wider perspective to the classroom and often incorporate their cultural heritage into project work. As an example, in our senior Mobile Development paper, a student recently built a mobile app for *NAME-English* translation.

The School of Information Technology works closely with International Office and wider agencies to ensure that international students are fully supported in the classroom, in accordance with the Ministry of Education Code of Practice for the Pastoral Care of International Students.

It has been our experience that international students benefit most if they enter the BIT as first-year students and complete the entire course of study. This is true even for students who have had prior formal IT education in their home countries. In many cases, the educational model of their previous institutions is much more narrowly focussed than ours. With a narrow skill set -- even if highly proficient -- international students have struggled to find employment in the New Zealand IT industry, where a general and flexible training is highly valued. We thus recommend that international students spend the entire three years with us if possible, gaining a broad and solid IT foundation, along with an area of advanced specialisation. This will prepare them for the NZ IT job market.

### Supporting Documents – Institutional Frameworks

<https://www.op.ac.nz/assets/PDFs/2013-Strategic-Goals/2013-OP-Learning-Teaching-Strategic-Framework-FINAL.pdf>

<http://www.op.ac.nz/about-us/sustainability>

<http://www.op.ac.nz/about-us/kai-tahumaori/maori-strategic-framework>.

<http://www.op.ac.nz/enterprise/>

## Graduate Capability Framework

In 2014, OP developed a draft Capability Framework that is being piloted in 2015. We have stated that Otago Polytechnic graduates are capable; this means they are personally effective, future focused and able to practise sustainably. We have further defined “being capable” to mean that our graduates are work-ready. The Capability Framework sets out the characteristics and key behavioural indicators for each of the three inter-related dimensions we have identified as comprising capability; that is: personally effective, future focused and able to practise sustainably.

The framework and its associated tools are intended to be used by staff and students within each programme in several ways. The framework will guide development of learning activities that purposefully build capability. A self-assessment tool will enable learners, in collaboration with teachers, mentors, workplace supervisors and peers to measure and track their capability development. Evidence of capability gathered by learners and assessed by staff will inform a summary report on each graduate's capability that can be provided to future employers.

In this way, Otago Polytechnic graduates can provide future employers with evidence both of qualification attainment and level of capability as identified through the framework. The pilot in 2015 will test the framework, the tools, the implementation and the reports with learners, staff, workplaces and employers. Modifications will be made for a wider pilot in 2016. We intend to roll out the final capability framework and associated processes across all our programmes in 2017.

## Programme Aims/Strategic Purpose Statement

The aim of Otago Polytechnic Bachelor of Information Technology is to prepare work-ready information technology professionals who are able to make an immediate contribution to the IT industry. Our graduates will be exemplary in both their practical abilities and their professional standards. They will be critical thinkers who are able to maintain discipline currency in a rapidly changing industry throughout their careers.

## Graduate Profile/Graduate Outcomes

**Programme Outcome Summary:**

By the end of this programme students will:

* have completed in-depth study of chosen areas in Information Technology.
* demonstrate a solid foundation of knowledge and capabilities suitable for a range of careers involving Information Technology.
* identify, respond to and solve problems using IT industry tools, processes and standards
* use an inquiring, analytical approach, independent judgement and critical thinking.
* see learning and the constant updating of knowledge as required professional behaviour.
* demonstrate collegial and interpersonal skills through focussed training and extensive practical group work.
* demonstrate professionally ethical behaviour consistent with industry codes of conduct.
* be informed by an understanding of social, technological, political, economic and cultural sustainability.

**Programme Outcome Statement:**

Graduates of the Otago Polytechnic Bachelor of Information Technology will have a solid foundation of skills and knowledge across the IT discipline, with in-depth understanding of their chosen areas of specialisation. They will be pragmatic and work-ready, but will also have the ability to independently acquire new information and to apply their training to novel problems. They will be prepared to step directly into a professional role in the IT industry.

**Detailed Graduate Profile:**

Graduates of the Bachelor of Information Technology programme will have attained a recognised qualification which has prepared them for entry into a wide range of IT fields, including:

* Software design and development, including desktop, mobile, web, and database
* Systems administration
* IT infrastructure and operations (devops)
* Network administration and support
* IT Training
* IT service and support

Compulsory first year courses provide a broad general knowledge base for all students. Curriculum delivery typically follows a spiral model with topics addressed several times throughout the programme with increasing depth. In their second and third years, students can choose to specialise in areas of interest (threads). A graduate of the degree programme will be aware of current developments across the field, and will have expertise in at least one thread and a firm foundational understanding of the others. Identified major threads are:

* Software development
* IT Infrastructure and operations
* Network engineering
* Professional practice
* Alternative digital platforms (hardware, IoT, etc.)

At the completion of the programme, students will have developed intellectual and practical skills in a range of core areas. They will be sustainable practitioners in the field of information technology. They will apply a structured engineering approach to solving complex IT problems in environmental, social, political and economic contexts.

They will have:

* acquired general knowledge and skills in selected areas of information systems, software development and computer engineering appropriate to the pursuit of careers in information technology.
* developed the interpersonal capabilities needed for a career which requires cooperation and participation in group task performance and decision-making activities.
* demonstrated an understanding of the complex and dynamic technological, social, economic, cultural and political environments in which information technology activities are undertaken.
* demonstrated the ability to adapt in the rapidly changing information technology environment and to operate within this area knowledgeably, productively and professionally.
* demonstrated the ability to think critically, and to evaluate and apply existing knowledge to actual problems and requirements of information technology.

## Programme Structure

Path of study form or diagram

## Graduate profile by thread

**Year 3**

Graduates of the Bachelor of Information Technology will have developed advanced skills and knowledge in one or more major threads, in addition to demonstrating core knowledge in a range of other areas. They will be able to independently search out and use resources necessary to maintain personal discipline currency throughout their careers.

At the end of the third year of the Bachelor of Information Technology, students who choose to study in each of the specialisation areas will:

|  |  |
| --- | --- |
| **Software Development** | Demonstrate advanced understanding and abilities in the design, development and implementation of software using a range of modern languages, paradigms and environments.  Be able to comfortably master new programming languages, libraries and development tools.  Use appropriate, structured engineering processes for planning, development, deployment and documentation of software systems.  Evaluate and select correct and efficient data structures, algorithms and computational approaches for complex programming problems.  Use modern data mining techniques to perform basic analyses on digital data stores. |
| **IT Infrastructure and Operations** | Demonstrate advanced understanding of operating system architectures and the installation and configuration of operating systems, including the management of devices, software and processes.  Design, deploy, and maintain services in distributed environments using industry standard tools and practices. This includes the theoretical and practical foundations of virtualization. Students will be able to design and/or maintain virtualized environments for specific services or systems. |
| **Networks** | Evaluate and apply industry standard networking protocols, services and concepts to the design, deployment and maintenance of medium to large-scale networks.  Perform core network engineering and administration tasks including configuration, monitoring, security analysis and trouble-shooting. |
| **Professional Practice** | See discussion of year 2. Students do not have the option of choosing Professional Practice as their primary area of specialisation in year 3. |
| **Alternative Digital Platforms** | Demonstrate practical advanced knowledge of the principles of computer architecture  Create complex programs that interface microprocessors with a variety of devices using industry standard protocols. |

**Year 2**

Students who have completed the second year of the Bachelor of Information Technology will demonstrate applied information technology skills using a range of technologies. They will have developed deep knowledge in one or more specialist areas and demonstrate professional skills in analysing problem contexts, communicating with non-technical populations, working in a team and documenting their work.

At the end of the second year of the Bachelor of Information Technology, students who choose to study in each of the specialisation areas will:

|  |  |
| --- | --- |
| **Software Development** | Be able to design and implement robust simple applications in one or more current programming languages.  Demonstrate an understanding of a variety of core algorithms and abstract data types.  Apply basic human-computer interface principles to aid readability, ease of navigation and accessibility.  Work comfortably with a variety of languages and development environments.  Understand and implement the basic principles of external data manipulation (e.g. file and database access) in both web and desktop software development.  Be able to design formally correct relational databases, given a data handling problem.  Use Structured Query Language for database implementation and data manipulation. |
| **IT Infrastructure and Operations** | Identify key components of operating systems and their relationships.  Perform core systems administration tasks for a variety of infrastructure configurations.  Describe protection and security issues and solutions  Demonstrate security protocols and risk management practices. |
| **Networks** | Configure and verify router interfaces  Identify appropriate networking architectures for a range of use cases.  Demonstrate the configuration of industry current routing protocols.  Design and implement a classless IP addressing scheme for a network  Identify the characteristics of common routing protocols |
| **Professional Practice** | Participate effectively in multidisciplinary teams.  Apply group/team oral and written communications skills to a specialist purpose  Demonstrate communications skills appropriate to effective team management  Demonstrate effective group presentation techniques using electronic aids  Demonstrate in-depth knowledge of the ethical, legal, social and cultural values and beliefs relevant to the modern IT industry.  Evaluate the individual and community components of sustainable practice and manage processes to achieve a group goal |
| **Alternative Digital Platforms** | Be able to select and/or design appropriate architectures, components, performance metrics, and software for a specific processing task using common microprocessors, sensors and related hardware. |

**Year 1**

Students who have completed the first year of the Bachelor of Information Technology will have gained basic skills across the complete range of taught information technology topics. They will be able to apply those skills and knowledge in solving practical problems. Students will behave in a professional manner and will be culturally sensitive in their interactions with other people. They will demonstrate an awareness of the importance of environmental, social, political and economic contexts for the Information Technology discipline.

At the end of the first year of the Bachelor of Information Technology, students will:

|  |  |
| --- | --- |
| **Software Development** | Understand the principles of correct design and implementation of simple OO applications.  Correctly use basic programming constructs, including simple variables, decision and looping structures.  Demonstrate sound programming practice, including correct logic, syntax and structure.  Develop simple programmes to meet specifications.  Understand and utilize variables of several simple types and simple data structures.  Understand the basic principles of Object-Oriented analysis, design and programming, including encapsulation, inheritance and polymorphism  Understand information systems in terms of data structure, software architecture and user function; design and develop an information system with user interface elements and a simple relational database as data store.  Use editing tools to develop web sites and applications for the web environment.  Explore and discuss the social impacts of the use of web technologies. |
| **IT Infrastructure and Operations** | Not studied in year 1 |
| **Networks** | Demonstrate an understanding of fundamental networking concepts and technologies.  Use network protocol models to explain the layers of communications in data networks  Design, calculate, and apply subnet masks and addresses  Build a simple Ethernet network using routers and switches  Employ basic cabling and network designs to connect devices  Perform basic router and switch configuration and verification  Analyse the operations and features of the transport and network layer protocols and services |
| **Professional Practice** | Demonstrate effective written and oral communication skills at a personal level.  Demonstrate an understanding of theories of communication, including cross-cultural communications, as applied in the information technology industry environment.  Demonstrate an understanding the interrelationship between communications, information technology and environmental/social issues in both a global and New Zealand market.  Demonstrate practice in oral and written communications skills as applied in the information technology environment.  Demonstrate an understanding of contemporary Kai Tahu/Ngai Tahu perspectives. |
| **Alternative Digital Platforms** | Demonstrate an understanding of personal computer hardware technology.  Identify, explain and install the main components of a personal computer, including the identification of environmental and economic issues involved in purchasing and disposing of a computer.  Perform standard troubleshooting procedures on typical faults (both hardware and OS).  Identify and perform preventative maintenance routines.  Perform simple application development on alternative platforms including mobile devices and common microprocessors |

For details of individual papers, please refer to Local Course Summaries

## Certification Rule

Boilerplate. Get this from Joy or Maggie…

# DELIVERY METHODS

Experiential learning is the underpinning learning and teaching methodology used at Otago Polytechnic. It is used to facilitate learning through experience, reflection and taking action. In addition to experiential learning all Otago Polytechnic programmes are required to use a blended learning approach. All programmes must provide opportunities for online learning, authentic work experiences and student-managed learning. Programmes are expected to embed experiential learning and blended learning as part of the curriculum design process.

## Experiential Learning

Definition: Experiential learning is learning through reflecting on experience within the context of programmes and courses, including the face-to-face activities, online activities, student-managed activities and authentic work experiences that have been designed to enable learning.

Further explanation: Experiential learning experiences are designed to engage learners in an activity and to initiate the reflection process. Learning takes place through a cycle whereby learners reflect on the activity (think about it; asking ‘what?’), explore abstract concepts (ideas, theories, beliefs; asking ‘so what?’) and make connections between theory and the learner’s actual experiences (linking, correlations, relationships; asking ‘now what?’) and apply this learning to new activities or work contexts (take action).

The experiential learning cycle encourages learners to think more deeply, reflect, develop critical-thinking skills, transfer their learning into action and apply what they learned in one situation into another. Experiential learning happens through the learner’s reflection “in” and “on” experiences using analytic skills (investigation and questioning). The cycle includes more than one reflection point. It involves constant reflecting, reinforcing and re-examining to gain a deep understanding. It can occur with or without facilitation by a teacher.

Learning through everyday experience is not enough; it is the on-going reflective process of multiple cycles of action, reflection and taking action as a result of the reflection that facilitates an individual’s learning. Through this process learners will develop their own understandings and conclusions relevant to them. The learning will be personal to each learner and the teacher cannot predict the learning an individual will take from the experience.

Individuals may take very different messages from a single event. When students engage in on-going cycles of experience/activity, reflection, conceptual thinking and identification and application of learning their learning is enhanced. A learning experience is a means to an end, not an end in itself. The essence of effective experiential learning is that the entire process is centred on the learner and not the task, allowing the learner to derive meaning from an experience and developing the learner as an individual.

Teachers can support experiential learning by:

• creating an appropriate learning environment where learners are a able to undertake each element of the experiential learning cycle safely to develop reflection skills and critical thinking skills

• designing a meaningful experience (activity) that will initiate the experiential learning process

• guiding thinking, purposefully questioning and challenging learners’ thinking to develop understanding

• ensuring that any conceptual thinking is progressed to meaningful conclusion and opportunities for improvement identified

• where appropriate, ensuring opportunities for students to plan their own learning outcomes within specific courses such as electives and within specific assessments, e.g. learner managed projects.

## How does the programme incorporate experiential learning into course design?

In an applied technical programme such as ours, a critical pedagogical challenge is the connection of theory to practice. Without a solid foundation in theory, students gain only superficial mechanical skills, and will struggle to extend their mastery to novel contexts and problems. Without application of theory, students gain only an abstract understanding, but are not able to *do.* We make the bridge between theory and practice with a tightly scaffolded curriculum designed to flow smoothly across all three years of the degree, in which theoretical principles are introduced in well-delineated modules, and **always** accompanied by a connected practical task, activity or project that demonstrates the practical application of the theoretical material. Theoretical content, even in areas such as mathematics, is presented in a realistic IT context that allows students to understand the relevance of the material and to incorporate the new material into their existing cognitive schemata.

In the earliest years, the connection of theory to practice is made explicit, with the tutor describing, for example, how modulo arithmetic is used in the management of computer passwords. As the student progresses through the degree, they are gradually led to make these connections independently, through analysis and reflection. In their final advanced programming paper, for example, students are required to choose between alternative algorithms for solving complex real-world software problems by performing theoretical efficiency analyses.

Our tightly scaffolded curriculum, in which content elements are carefully ordered across all years, and each new element builds carefully upon those previously mastered, allows for a flexible and iterative learning experience. For example, in early programming papers, initial weeks are spent implementing a set of related code modules. Each module is part of a formative assessment, so students receive detailed guidance and support during construction, and feedback about their work upon completion. They refactor and modify their code in response. Students then perform a large summative assessment project which uses the code modules they have already built. This process requires an integration of course material -- both theoretical and conceptual -- leading to an even richer understanding.

The process is inherently experiential -- contextualised in the real world, cognitively constructive, iterative, individual, requiring reflection and deep problem solving.

## Blended Learning

Definition: Learning through a blend of modes including face-to-face, online, authentic work experiences and student-managed learning.

Further explanation: All Otago Polytechnic on-campus programmes will be designed to ensure learning opportunities that blend face-to-face learning, on-line learning, authentic work experiences and student-managed learning. While programmes must blend these four modes, individual courses may use single modes or a combination of modes to best facilitate student learning within the course. All learning opportunities will be underpinned by experiential learning.

Face-to-face learning is where students are physically present with others involved in the learning process. For example: classroom learning experiences; small group tutorials; laboratories; studios; community experiences; and student projects.

On-line learning uses electronic technology to deliver learning materials and activities. Students can engage in online learning activities at the same time (synchronous), for example in online tutorials or discussion. Student can engage with online activities in their own time (asynchronous), for example working through modules on the Learning Management System or website, posting a blog or engaging in a discussion forum. For all courses students will have online access to course information including timetables, assessments, online modules, work experience information and course-related messages from teachers.

Authentic work experiences cover a wide range of learning opportunities focussed on work. These might be real work experiences or they might be interactive learning activities that have been designed to replicate as much as possible the tasks or activities or settings of real world work. In other words activities that are designed to ‘feel’ like a real work place situation.

Student-managed learning can be in any mode. It is where the student engages in learning activities without the presence of the teacher and the student is required to self-manage to complete the activity within the expected timeframe. The learning activities may be designed by the teacher but carried out by the student alone or in groups, for example in a student-managed project, asynchronous online learning or preparation of an assessment task. Student-managed learning can also be student-directed whereby the student chooses to explore topics of interest to them as an adjunct to the formal learning designed by the teacher.

For examples of authentic work experiences, see Appendix 1.: Examples of Authentic Work Experiences.

## How does the programme incorporate blended learning into course design?

We are preparing students to work in the Information Technology industry. To this end, they must be familiar with the wide range of digital tools, techniques and systems that are currently used in business, education and other modern enterprises. There is no need for us to introduce these tools in any artificial context -- we simply require the students to use them as they will use them after graduation. Examples include:

Digital version control and collaboration: Our students use the ubiquitous Git system for version control, assignment submission and team workflow support, starting in the first year. Git servers (GitHub, GitBucket, etc.) are also used for issue tracking and ticketing. These systems make it possible for lecturers to view student code remotely 24/7, when students need help resolving bugs or architectural problems outside of normal school hours.

Online materials access: All digital course materials (e.g. lecture PowerPoints, practical task handouts, code samples and skeletons) are available online via a variety of channels including remote servers, virtual machines and web access tools. Textbooks are made available via the Safari Digital Library for continuous online access. Video tutorials and interactive online tools are included in course materials as appropriate.

Digital communication channels: Staff maintain open communication with students outside of class via Slack, Facebook and other online forums tools. These systems allow both one-to-one conversation for students who have specific questions and class-wide discussion and announcements.

These online tools are a natural and essential part of any IT professional's training, and our students master them without difficulty. However, we also wish to note the indispensable pedagogical value of face-to-face teaching. There is considerable empirical evidence that computer programming and related complex IT skills cannot be taught effectively through 100% remote delivery. Because of the scaffolded information architecture of our discipline, small confusions early in a student's training are likely to lead to catastrophic problems later (see e.g. Robinson, 2010). This pattern is posited to be the cause of the unusually high failure rates seen in many IT programmes internationally. With face-to-face teaching by an experienced and observant instructor, these small problems can be identified and resolved quickly, avoiding frustration and failure.

## Authentic Work Experiences

N/A. The BIT intentionally does not incorporate formal work placement. Because of the highly technical nature of our discipline, it is unlikely that an undergraduate, especially in the first two years, would be able to participate meaningfully in the IT services of a business or other enterprise. It would be detrimental to the educational process for students to devote large amounts of time to the menial tasks that they would be able to perform in the early stages of their training.

However, as much as possible, we seek to replicate the work ethos and environment in the classroom, adjusted to accommodate a student level of knowledge. Please see discussions of teaching and assessment approaches elsewhere in this document for details.

# PROGRAMME REGULATIONS

## Admission to the Programme

Entry Requirements

\*For NZQA’s minimum English language entry requirements, go to:

<http://www.nzqa.govt.nz/about-us/our-role/legislation/nzqa-rules/nzqf-related-rules/programme-approval-and-accreditation/app-2/the-table/>

Selection Criteria\*

Supporting Documents

* Institutional English Language Entry Requirements policy – refer to Appendix 3.: AP0520.00 English Language Requirements for those for whom English is an Additional Language.
* Institutional Application, Entry and Enrolment Policy - Appendix 4.: AP0504.04 Application, Entry and Enrolment

## Recognition of Prior Learning, Cross Credit, and Credit Transfer

* Are there any variances to OP’s expectations for any of these items? If so, list below, and provide a rationale. List any restrictions (ie, which courses are not eligible)

Supporting Documents

Institutional Recognition of Prior Learning and Credit Recognition policy – refer to Appendix 5.: AP0501.09 Recognition of Prior Learning (RPL).

## Assessment Provisions

Availability of Assessment in Te Reo

* Institutional Assessment policy, unless programme has exceptions to this (if so, provide details) – refer to Appendix 6.: AP0900.05 Assessment.
* Institutional Assessment Committee policy – refer to Appendix 7.: AP0910.00 Assessment Committee.

Reassessment/Resits

Resubmissions

Criteria for an Aegrotat Pass & Impaired Performance

Institutional Impaired Performance/Aegrotat policy – refer to Appendix 8.: AP0907.00 Impaired Performance/Aegrotat.

Appeals Process

* Institutional Appeals policy – refer to Appendix 9.: AP0600.05 Academic Appeal Process for Students.

Student Handbook

At Otago Polytechnic, Schools have largely stopped providing Student Handbooks, as all students can access student rights and responsibilities and other information via the website. Each course also has a course outline that has been created using a standardised template, and a new policy is being created that will require all course outlines to be approved by the Learning and Teaching Committee before being delivered. The course outline will be held centrally and revised through a revision cycle, with only minor tweaks allowed between years. The course outline has all the details of the course including timetable, learning activities, all assessment details, authentic work experiences etc.

## Progression

* Minimum and maximum qualification completion timeframes
* Restrictions on re-enrolment in failed courses

# ASSESSMENT AND MODERATION

## Assessment Expectations

Otago Polytechnic’s expectations around assessment and feedback are outlined in its Assessment Policy. Certificate and Diploma programmes are expected to provide feedback to students within one to two weeks; degree and postgraduate programmes, excluding thesis marking, are expected to provide this within one to four weeks. Students may request to be assessed in Te Reo Māori.

Supporting Documents

Institutional Assessment Policy – refer to Appendix 6.: AP0900.05 Assessment.

## Assessment Methodologies

**Assessment methodologies used, and rationale for using them:** Our primary criterion for assessment is that it be ecologically valid. That is, we design our assessments so that they measure, as much as possible, a students' ability to do the real-world tasks they will encounter as IT professionals. To this end, we minimise traditional written theory examination, and replace it with project work and simulated industry situations (e.g. dealing with an attempted distributed denial of service attack on a cluster of virtual servers; participating in a mock client meeting or job interview). The emphasis in assessments is always on active problem solving rather than on the recitation of memorised material.

To ensure that theoretical mastery is fully assessed, we embed theoretical content in practical tasks. For example: students will demonstrate their understanding of relational algebra by designing a data base in correct 3rd Normal Form; students will demonstrate their understanding of algorithmic efficiency by selecting the correct computational approach for a software artefact; students will demonstrate their understanding of theoretical system security risks by designing and implementing a correct network security protocol.

**Assessment in group work and verification of authorship in project work**: Group work skills are essential for all modern IT professionals. Group work also makes tractable increasingly large and complex project work as students progress through the degree. Therefore group work plays a large part in our assessments. To monitor group contribution, we use the tools and protocols that are used for this purpose in the industry. This includes, for example, stringent requirements for commit logs in software version control, Trello boards or equivalent tools for recording task assignment, and work journaling. These systems document incrementally each group member's work, and so provide transparency for individual contributions and evidence of authorship.

To insure that no student is penalised unduly by low performance of a group member, large assessments are based on a combination of group and individual metrics. For example, a student's mark in the 3rd Year Senior Project is comprised of a common group mark for the artefact(s) produced, an individual mark based on the student's own evidence portfolio in which the student documents his or her individual contribution and reflections upon that contribution, and an individual mark conferred by the supervising staff member.

## Internal Moderation

Internal moderation is performed in topic "threads". That is, teaching staff from each primary topic area (programming, operations, networking, hardware and professional practice) work together to insure that curricula throughout the degree are aligned and that assessment material is correctly designed. Threads meet at regular intervals to discuss course content. Moderation of specific assessment items (theoretical examination and project/skills-based work) is performed within the group as requested.

Programme-Specific Moderation Plan

Refer to Appendix 11.: Internal and External Moderation Plans for the programme’s internal and **external** moderation plans.

## External Moderation

External moderation is conducted by qualified teaching staff from comparable New Zealand IT degrees. Papers are moderated on a three-year rolling cycle….?

Supporting Documents

Institutional Moderation or Assessment policy (which covers both internal and external moderation) - refer to Appendix 12.: AP0908.00 Moderation of Assessment.

# RESOURCES TO SUPPORT DELIVERY

## Teaching and Learning Resources and Support Systems Available to the Learner

The BIT requires a sufficient number of student computer suites, and appropriate licensed software. The software requirements are updated at each course offering to reflect changes in the IT industry. Student machines, and their software images, are managed by the Otago Polytechnic ISS department. ISS also provides remote server storage for each student.

Special BIT software tools (e.g. our GitBucket server) are provided using remote storage from Amazon Web Services (or equivalent cloud provider) and managed in-house by academic and technical staff. Special purpose hardware (e.g. our suite of mobile devices for student development; materials for our robotics paper) are purchased from department funds and also managed in-house.

Textbooks are delivered almost exclusively through an online subscription service (at the time of writing, we use the Safari Online Catalogue). This eliminates the need for wasteful acquisition of physical books that rapidly become obsolete as technology changes.

Supporting Documents

Resource Verification – refer to Appendix 13.: Resource Verification.

Campus-Specific Resources available to the learner – refer to Appendix 14.: Campus Specific Resources Available.

## Further Resources Needed/Planned (optional)

## Staff Teaching on the Programme

* If there are existing staff, include their CVs as appendices
* If there are no current staff, include position descriptions
* If there are some existing staff, but plans to hire more, include these details

Supporting Documents Attached

* Staff CVs – refer to Appendix 15.: Staff Curriculum Vitae.
* Future Staff Position Descriptions – refer to Appendix 16.: Future Staff Position Descriptions (as needed).
* Procurement Plan – refer to Appendix 17.: Procurement Plan (as needed).

## Financial and Administrative Infrastructure

Resource allocation from central services to academic areas is currently on the basis of budgeted and actual EFTS plus some other drivers for specific cost areas. The internal resource allocation system is constantly under review, towards improvement. The head of each academic area is responsible for preparing an annual budget, and resourcing programmes within the area. The budget for each area is reviewed and adjusted by the budget manager as required in a formal forecast process in the second quarter of each year. This is undertaken in conjunction with their financial analyst and Leadership Team member, and then reviewed by Finance and the Chief Operating Officer before submission to Council for approval.

Specifically the following procedures are in place:

* Operating Income and expenditure plus capital expenditure is reported to and monitored in the central performance portal by the budget manager with oversight from their financial analyst each month
* All new programme submissions must include details of resource requirements so that consideration can be given to the availability of adequate funding.
* Computing facilities for all academic and service areas are updated and replaced by the ISS team on a cyclical basis.
* All academic and service areas identify capital requirements annually, these are included in the budget and forecast processes
* A process of maintenance identification is carried out every three years with necessary provisions being calculated on a 10-year depreciation cycle.

# ACCEPTABILITY OF THE PROGRAMME OF STUDY

## Consultation

| **Stakeholder (person’s name and/or organisation)** | **Why is this person/ organisation considered a stakeholder?** | **At what stage of the development was this stakeholder consulted?** *(include meeting dates if possible)* | **What were the key discussion points?**  *NOTE: If minutes exist, please make note of this and attach.* | **What feedback was received? What was the response to this feedback?**  **Were changes made as a result?**  **If not, why not?** |
| --- | --- | --- | --- | --- |
| Advisory Committee (required for degree level applications) |  |  |  |  |
| Monitor (required for degree level applications) |  |  |  |  |
|  |  |  |  |  |
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| **Stakeholder (person’s name and/or organisation)** | **Why is this person/ organisation considered a stakeholder?** | **At what stage of the development was this stakeholder consulted?** *(include meeting dates if possible)* | **What were the key discussion points?**  *NOTE: If minutes exist, please make note of this and attach.* | **What feedback was received? What was the response to this feedback?**  **Were changes made as a result?**  **If not, why not?** |
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# RESEARCH AND THE CURRICULUM

## Research Components in the Programme

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| --- | --- |
| **Course Name** | **Credit Value** |
| IN700 Project 1 | 15 |
| IN700 Project 2 | 30 |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

## Research Projects

General research support is available to all staff from the departmental Research Coordinator. The RC provides assistance with methodological and statistical issues, and manuscript preparation, submission and revision.

Student research support is provided generally by all staff, and specifically by the staff supervisor assigned to each project cluster in the 3rd Year Project.

## Supervisors/Facilitators/Academic Mentors/Consultants

* Criteria and procedures for appointing qualified and experienced supervisors/academic mentors
* Guidelines/Code of Conduct for researchers and research supervisors

## Assessment of Research/Examination of Thesis

* N/A

# RESEARCH AND STAFFING

## Staff Research Outputs

Please see section 1.2.4 above, for details of the department's current research programmes and the ways in which research practice informs the curriculums.

* Include School research outputs or link back to staff CVs if research outputs listed

Supporting Documents

School Research Plan and Priorities – refer to Appendix 18.: Research Plan and Priorities.

## Recruitment and Development of Staff

* How does the School ensure appropriately qualified staff are recruited?
* How does the School support the development of its staff as researchers and/or supervisors?

Supporting Documents

Institutional Research and Staffing policy – refer to Appendix 19.: policy number here Research and Staffing Policy.

MP460 Performance Review

# SELF-ASSESSMENT AND EXTERNAL EVALUATION

## Annual Programme Evaluation Report (APR)

* Describe programme specific evaluation and review processes and recent outcomes

Institutional Expectations

All programmes are required to participate in an annual internal evaluative process, the Annual Programme Evaluation Report, to report on the on-going quality of the delivery including graduate outcomes, student feedback, staff feedback, completion and retention rates, external stakeholder feedback, research outputs, and proposed changes to the programme. Schools are also evaluated against the implementation of the Polytechnic’s four Strategic Frameworks: Teaching and Learning, Māori, Sustainability, and Research and Enterprise.

A meeting of Head of College/School and College/School staff with senior managers is held to consider the programme’s development over the past year and to identify an action plan for improvement for the following year. The final report from this process is intended to meet three requirements: evidence of evaluative self-assessment, an action plan, and to meet QAB (Quality Assurance Body) reporting requirements for degrees and postgraduate programmes. Each year each programme area is required to provide a self evaluative report to the Polytechnic’s Leadership Team, who review the report, and provide feedback, ratings against criteria, and recommendations.

## Online Student Feedback

Within OP programmes, students will learn in part through online activities where they exercise some control over time, pace, and place of study, and potentially over their own learning pathway. Students will also learn in part through face-to-face experiences and authentic work experiences, which will provide opportunities for learners to participate actively in social and work settings.

On each course's website, there are several opportunities for students to provide feedback to the course coordinator and wider teaching team. Each learning module offers the student an opportunity to evaluate the module, and there is also an anonymous suggestion box on the home page of each course. These evaluations are in addition to the formal evaluation done at the end of each course. Also, to support understanding, each assessment comes with its on Q&A forum, and there is also a General Q&A forum on the home page of each course.

## Registration/External body review processes

N/A

## Degree monitoring

* Describe current monitor and recent monitoring outcomes, where applicable

Supporting Documents

Institutional Monitoring policy – refer to Appendix 20.: AP0707.04 Monitoring of Degree and Postgraduate Qualifications.

## Quality Management System

Otago Polytechnic’s Quality Management System is outlined in the Academic Quality Management Manual (AQMM). The Chief Executive is responsible for ensuring that the integrated quality management system is maintained, reviewed and implemented throughout the institution. The Manager, Quality holds delegated authority for the AQMM at operational level. The AQMM is available upon request.

# Course Summaries

## 

|  |  |  |  |
| --- | --- | --- | --- |
| *SMS Code* |  | *Teacher-directed learning hours* |  |
| *Level* |  | *Authentic work experience learning hours* |  |
| *Credits* |  | *Student-managed learning hours* |  |
| Prerequisites |  | *Total learning hours* |  |
| *NQF Unit standards assessed in this course:* | | | |
| *This course approved in another Programme Yes / No*  *Name of other Programme:* | | | |

***Aim***

***Learning Outcomes***

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



***Indicative Content***



***Assessment***

***Sub-degrees: describe your approach to assessment here. For example: the approach to assessment in this course will be through oral and written evidence, ie presentations and essays.***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Assessment Activity**  **DEGREE ONLY** | **Weighting DEGREE ONLY** | **Learning Outcomes DEGREE ONLY** | **Assessment Grading Scheme**  **DEGREE ONLY** | **Completion Requirements DEGREE ONLY** |
|  |  |  | (ie pass/fail; marks out of; percentage;marks out of/percentage; CRA) | (ie must pass, must pass with minimum %, etc) |
|  |  |  |  |  |

***Resources* DEGREE ONLY**

**Required:**

**Recommended: DEGREE ONLY**

###### summary Information

###### enrolments

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Start date** | **Intl enrolments?** | **Available part-time?** | **Student loans available?** | **Student allowances available?** | **Advanced standing available?** |
|  | Y/N | Y/N | Y/N | Y/N | Y/N (include any limits) |

###### qual award

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Primary grade table** | **Exceptions to primary grade table?** | | **“Merit” available?** | | **“Distinction” available?** | **Criteria to meet award of merit and/or distinction** |
| Competency/criterion reference | Y/N | | Y/N | | Y/N |  |
|  | | | | | | |
| **To achieve this qualification, a learner must:** | | | | | | |
| **Complete total number of credits** | | **Pass all compulsory components** | | **Pass the following components** | | |
|  | | Y/N | |  | | |

###### tec

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Teaching hours per week** | | **Work experience hours per week** | | **Self-directed learning hours per week** | | **Teaching weeks per year** | | **Gross weeks per year** | | **Holiday weeks per year** |
|  | |  | |  | |  | |  | |  |
|  | | | | | | | | | | |
| **EFTS based funding sought?** | | **Total EFTS value** | | **Award variances, ie logo?** | **Maximum time to complete** | | **Total Credits** | |  | |
| Y/N | |  | | Y/N |  | |  | |  | |
|  | | | | | | | | | | |
| **QEC Data Analyst to Complete:** | | | | | | | | | | |
| **Source of funding** | **NZSCED** | | **Does EFTS value meet LET table?** | | | **Qual award category** | **Register level** | | **ISCED level** | |
|  |  | | Y/N | | |  |  | |  | |
|  | | | | | | | | | | |
| **ISCED subsequent destination** | **Certifying authority** | | **Programme abbreviation** | | | **NQF Credits (STEO only)** |  | |  | |
|  |  | |  | | |  |  | |  | |

# Appendices

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12.20 Appendix 20.: AP0707.04 Monitoring of Degree and Postgraduate Qualifications

## Appendix : Examples of Authentic Work Experiences

Examples of authentic work experiences include one or more of the following:

* Internships
* Volunteer experiences in the community (for example in Art or Occupational Health)
* Industry projects (for example in IT and Engineering)
* Work-based learning (for example in Capable NZ)
* Work place learning (for example in VET nursing)
* Apprenticeships (for example in Carpentry, Electrical Technology)
* Student-delivered services at Otago Polytechnic (eg. Kowhai Centre for counselling students; house building for carpentry students; automotive workshops for automotive engineering students; Technique, and other OP restaurants and cafes for cookery, hospitality and culinary arts students; gardens and nurseries for horticulture; and landscaping projects for internal and external clients).
* Simulations, role plays and case studies (for example in health, engineering trades or business)
* Practical outdoor learning (for example in avalanche, outdoor education and sports programmes)
* Using authentic industry-based documents (eg. In health or business administration)
* Problem or project-based learning (eg electric car project in engineering, Year One Bachelor of Applied Management projects)
* Supervised placements in workplaces (for example in Health, Social Services or Engineering/Trades programmes)
* Student projects

Any specific learning activity may combine one or more modes of learning. For example:

‘Flipped classrooms’ combine face-to-face and on-line learning. Students are required to engage with online resources on a topic before coming to class to engage in learning activities that help them apply the knowledge and understanding they gained online to the activity they are doing in the classroom.

Synchronous online learning within a computer laboratory enables students to engage with online materials in a classroom setting with others and gives them immediate access to peer support and discussion.

Simulations (nursing and welding) combine face-to-face activity in clinical laboratories with electronic technologies that replicate real workplace activities such as assessment of a patient or using a welding machine. Simulations enable students to learn and practice skills in a safe environment.

## Appendix : Work placement Agreements

Provide copies of agreements between Otago Polytechnic, the learner, and the employer/provider of the training.

## Appendix : AP0520.00 English Language Requirements for those for whom English is an Additional Language

Institutional English Language Requirements for those for whom English is an additional language Policy - click on the link below to view:

[http://www.op.ac.nz/assets/policies/AP0520.02-English-Language-Requirements-for-those-for-whom-English-is-an-additional-language.pdf](http://www.op.ac.nz/assets/policies/AP0520.02-English-Language-Requirements-for-those-for-whom-English-is-an-additional-language.pdf%20)

*(Sourced from Otago Polytechnic Website)*

## Appendix : AP0504.04 Application, Entry and Enrolment

Institutional Application, Entry and Enrolment Policy - click on the link below to view:

<http://www.op.ac.nz/assets/policies/AP0504.04-Application-Entry-and-Enrolment.pdf>

*(Sourced from Otago Polytechnic Website)*

## Appendix : AP0501.09 Recognition of Prior Learning (RPL)

Institutional Recognition of Prior Learning Policy - click on the link below to view:

<http://www.op.ac.nz/assets/policies/AP0501.09-Recognition-of-Prior-Learning.pdf>

*(Sourced from Otago Polytechnic Website)*

## Appendix : AP0900.05 Assessment

Institutional Assessment in Te Reo - click on the link below to view:

<http://www.op.ac.nz/assets/policies/AP0900.06-Assessment.pdf>

*(Sourced from Otago Polytechnic Website)*

## Appendix : AP0910.00 Assessment Committee

Institutional Assessment Committee - click on the link below to view:

<http://www.op.ac.nz/assets/policies/AP0910.00-Assessment-Committee.pdf>

*(Sourced from Otago Polytechnic Website)*

## Appendix : AP0907.00 Impaired Performance/Aegrotat

Institutional Impaired Performance/Aegrotat policy - click on the link below to view:

[http://www.op.ac.nz/assets/policies/AP0907.01-Impaired-Performance-Aegrotat.pdf](http://www.op.ac.nz/assets/policies/AP0907.01-Impaired-Performance-Aegrotat.pdf%20)

*(Sourced from Otago Polytechnic Website)*

## Appendix : AP0600.05 Academic Appeal Process for Students

Institutional Appeals Process Policy - click on the link below to view:

<http://www.op.ac.nz/assets/policies/AP0600.05-Academic-Appeal-Process-for-Students.pdf>

*(Sourced from Otago Polytechnic Website)*

## Appendix : AP0900.05 Assessment Policy

Institutional Assessment Policy - click on the link below to view:

<http://www.op.ac.nz/assets/policies/AP0900.06-Assessment.pdf>

*(Sourced from Otago Polytechnic Website)*

## Appendix : Internal and External Moderation Plans

## Appendix : AP0908.00 Moderation of Assessment

Institutional Moderation of Assessment Policy - click on the link below to view:

http://www.op.ac.nz/assets/policies/AP0908.01-Moderation-of-Assessment.pdf

*(Sourced from Otago Polytechnic Website)*

## Appendix : Resource Verification

|  |  |  |
| --- | --- | --- |
| **Resource Area** | **Signature** | **Date** |
| Library Resources  This verifies that consultation has taken place with the Library Manager or delegate, and any significant issues resolved. |  |  |
| Information Technology Resources  This verifies that consultation has taken place with the Chief Information Officer or delegate and that any significant resource issues have been resolved. |  |  |
| Financial Resources and Equipment  This verifies that the required financial resources and relevant equipment are available for delivery of the programme as per this development. |  |  |
|  |  |  |
|  |  |  |

## Appendix : Campus Specific Resources Available

Institutional Student Support Services - click on the link below to view:

<http://www.op.ac.nz/students/support/>

*(Sourced from Otago Polytechnic Website)*

## Appendix : Staff Curriculum Vitae

## Appendix : Future Staff Position Descriptions

## Appendix : Procurement Plan

## Appendix : Research Plan and Priorities

## Appendix : policy number here Research and Staffing Policy

Institutional Research and Staffing policy - click on the link below to view:

*(Sourced from Otago Polytechnic Website)*

## Appendix : AP0707.04 Monitoring of Degree and Postgraduate Qualifications

Institutional Monitoring of Degree and Postgraduate Qualifications policy - click on the link below to view:

<http://www.op.ac.nz/assets/policies/AP0707.04-Monitoring-of-Degree-and-Postgraduate-Qualifications.pdf>

*(Sourced from Otago Polytechnic Website)*

1. Configuration and management of software and accounts in a multi-user, multi-server environment [↑](#footnote-ref-1)