



Bachelor of Information Technology



Domestic fee: \$7,353 (first year)

International fee: \$22,800 (first year)

Compulsory student levy >
StudyLink >

*Fees are approximate, subject to change and exchange rates

Location	Dunedin and Auckland
Duration	Three years full-time; part-time options
Delivery	On campus with a major industry-based project for an external client during year three

Credits	360
Level	7
Start	Dunedin: February and July Auckland: March, June, August, October
Apply	until start date

Pursuing a career in Information Technology and keen to advance your skills and deepen your understanding of this diverse industry?

Discover the power of computing technology and how it can help you develop real world solutions and innovations with this stimulating, hands-on programme. Every industry, organisation and business in the world relies on computer technology in one way or another and the right qualification will create numerous employment opportunities for you, both here and overseas. There are currently far more IT jobs than there are graduates and employers are desperate for individuals with a solid understanding of the industry and a willingness to continue developing new skills. Become a Web Developer, Systems Administrator, Software Developer, Programmer, Business Analyst, Database Administrator or Computing Services Manager, amongst many others!

Study in a supportive and innovative environment and develop high-level technical abilities and a strong theoretical understanding of IT concepts while exercising your problem-solving skills and creativity. Focus on the professional communication skills required for working effectively in the industry and gain valuable, practical experience during an industry-based project for an external client. Benefit from the small class sizes, allowing for one-on-one attention from experienced teachers, and the chance to practise your newly acquired skills with a range of excellent equipment and software applications.

+ Entry requirements

- > NCEA Level 3
- > 14 credits at Level 3 in each of three NZQA approved university entrance subjects, and
- > 10 Literacy credits at Level 2 or above, made up of:
 - > 5 credits in reading and 5 credits in writing, and
- > 10 Numeracy credits at Level 1 or above, made up of:

- > specified achievement standards available through a range of subjects OR
- > package of three numeracy unit standards (26623, 26626, 26627- all three required).
- > You must submit an essay, explaining in approximately 500 words:
 - > what it is about IT that interests you
 - > what future you see for yourself in IT and what sort of job you are interested in
 - > what your educational background is and which subjects you enjoyed most at school
 - > whether you have previously studied at tertiary level and what you studied
 - > whether you have worked since leaving school
 - > why you have applied to study at Otago Polytechnic.
- > If you do not hold the above qualifications, you must demonstrate equivalent work/life experience.
- > International students will be individually assessed to ensure they meet degree-level entry requirements and must have achieved the equivalent of Year 11 mathematics.

All students (international and domestic) for whom English is not a first language:

- > must demonstrate English Language skills with an IELTS overall band score (academic) of 6.0, with no band score lower than 5.5 OR
- > must provide acceptable alternative evidence of English language proficiency depending on the visa decline rate of the country you are from. See here for acceptable evidence and visa decline rates by country.

Please note: All scores must be achieved in a single test completed in the preceding two years. You cannot combine scores from multiple tests. If you have achieved NCEA Level 3 University Entrance you are not required to provide evidence of English Language skills.

+ Bridging options

If you do not meet the entry requirements for the Bachelor of Information Technology, our New Zealand Certificate in Information Technology Essentials (Level 4) is the perfect solution as it will enable you to achieve the foundation knowledge you need to progress into other higher level IT qualifications.

+ Additional documentation

You must supply certified copies of proof of identify, academic records and proof of residency (where appropriate).

+ Selection procedure

All eligible applicants will be accepted unless the number of applications exceeds the available places (as indicated by the Bachelor of Information Technology Team Leader). In this case, applicants will be interviewed and ranked according to the professional judgement of the admissions panel on the basis of the candidate's likelihood to succeed in the IT industry.

+ Additional costs

There are no additional costs associated with this programme.

+ Further study options

This qualification is widely recognised, allowing you to apply for entry to postgraduate study in Information Technology. You will be qualified to apply for graduate teacher training programmes, leading to a career in IT secondary education.

+ You will study

The Bachelor of Information Technology degree is a broad-based programme providing an introduction to most areas of computing. Gain technical skills in programming, networking, operating systems, control technology and databases and learn about the IT environment and practice skills in business and interpersonal communication. Year one courses are compulsory and will give you a solid base for selecting specialist electives during the following years. In third year, you will undertake an industry-based project for an external client over two semesters and this will represent the culmination of your degree studies.

COURSES

Professional Practice for Information Technology (Level 5)

Receive an overview of the fundamentals of communication studies in the information technology

field. Gain an understanding of the fundamental principles and processes of communication, including an awareness of the multicultural influences in this context.

Introduction to Systems Analysis (Level 5)

Be introduced to business processes and information management in the information technology and related industries. Acquire knowledge about fundamental topics in business and, through a business context, learn about subjects in systems analysis and relational databases.

Programming 1 (Level 5)

Learn about concepts of program design and programming fundamentals.

Programming 2 (Level 5)

Build event-driven, GUI (Graphical User Interface) applications using pre-built controls. Be introduced to the theoretical issues involved in Object-Oriented analysis, design and programming, and the principles of correct design and implementation for applications of this type.

Web 1 - Technology and Development (Level 5)

Become acquainted with the range of available web-based tools for productivity, entertainment and communication. You are guided towards consideration of the social, academic, economic and cultural issues surrounding web-based interaction and are introduced to the technologies available for development of web-based functionality.

Introduction to Networks (Level 5)

Learn about fundamental networking concepts and technologies, by covering the basics of network theory and the skills needed to implement a simple network.

PC Maintenance (Level 5)

Discover how to install and maintain the main components of a computer. This course covers introductory aspects of both hardware and operating systems.

Maths for IT (Level 5)

Learn about the mathematical concepts and methods that underpin and are directly applicable to the theory of information systems. This course is primarily sited within the field of discrete mathematics.

Professional Practice 2: Vocational Skills for Information Technology (Level 6)

Develop effective workplace skills appropriate to the IT industry environment. This course applies in practice the interpersonal, written and oral presentation skills begun in the course IN501001 by exploring these skills in a team environment.

Software Engineering (Level 6)

Develop an understanding of software engineering methodologies. This involves knowledge of the methods and problems of the development, implementation and deployment of information systems. An important outcome of this module is preparing you for IN700001 and IN700002.

Project Management: Managing Projects in the IT Industry (Level 6)

Acquire an understanding of the basic principles of project management and apply project management skills, tools and techniques, as a project team member or Project Manager.

Databases 2 (Level 6)

Learn the fundamentals of relational database theory and how to design, build and use a database on a modern database management system.

Programming 3 (Level 6)

Extend your skills in object-oriented design and programming while introducing a full commercial programming language using Java.

Web 2 - Programming (Level 6)

Receive a thorough introduction to modern techniques for adding programmed behaviours to web pages. The course will include a review of basic network architecture and currently supported HTML dialects, and will introduce appropriate tools and languages for adding programmed interactivity and dynamic database support to web pages. As this is a rapidly changing field, the contents and tools will be regularly reviewed and updated as required to maintain discipline currency.

Programming 4: Intermediate Architectures and Algorithms (Level 6)

Be introduced to non-anthropomorphic object oriented class architectures and a selection of associated core computational approaches.

Multimedia Development (Level 6)

Become acquainted with multimedia and hypermedia development, focusing on the creation of multimedia materials using current industry-relevant applications. Theoretical material includes both technical issues in multimedia and design principles for artefact development.

Routing and Switching Essentials (Level 6)

Learn how to describe the architecture, components, and operations of routers and switches in a small network and to configure a router and a switch for basic functionality.

Operating Systems Concepts (Level 6)

Learn about the major components of operating systems and the basic organisation of computer systems.

Linux Operating Systems (Level 6)

Gain experience in the installation, support, maintenance and administration of a Unix-based operating system.

Quality Assurance and Software Testing (Level 6)

Lay the foundation for a potential career in the information technology field as a software tester. Understand the fundamental principles and processes of software testing.

Security (Level 6)

Develop foundation-level skill and understanding in general security concepts.

Embedded Systems (Level 6)

Be introduced to the core principles of computer hardware and architecture and become acquainted with a range of embedded application contexts.

Automation and Robotics (Level 6)

Use microprocessors and sensors to build mobile, context-aware robots. Learn to programme classic robotic behaviours and add wireless communication to explore basic swarm algorithms.

Project (Level 7)

Carry out advanced project work in the information technology field, applying skills learned in the degree programme to produce a project for an external client. Demonstrate commitment, competence, creativity and craftsmanship throughout the process.

Data Science and Machine intelligence (Level 7)

Provides a broad introduction to machine intelligence/Data Science with an emphasis on the intuition and the applications behind the concepts.

Explore current areas of research in database implementation, use and management. Learn to use a range of tools and platforms for modern data mining.

OO Systems Development (Level 7)

Gain experience in the design and development of object-oriented software systems using an industry-relevant development platform. This course is ideal if you are an experienced programming student working at an advanced level.

Algorithms and Data Structures (Level 7)

Become acquainted with the wide variety of algorithms and data structures required for complex software development, develop your programming technique to an advanced level, and learn how to analyse the efficiency and correctness of a computational solution.

Web 3 - Enterprise Development (Level 7)

Apply modern techniques in the design and delivery of information and functionality across the Web. This course extends the skills and knowledge you gained during Web 2 and covers both client-side and server-side techniques.

Advanced Networks (Level 7)

Provides students with an understanding of how to evaluate and apply advanced networking protocols, services and concepts to the design, deployment and maintenance of medium to large scale networks.

Administering a Virtual Infrastructure (Level 7)

An in depth knowledge and techniques used to efficiently implement, optimize and troubleshoot a

virtual infrastructure.

Design and Development of Applications for Mobile Devices (Level 7)

Explore the design and implementation of applications for mobile devices.

Systems Administration (Level 7)

Look at, and practice the configuration, management and troubleshooting of systems within an enterprise network including aspects of both applications and operating system components.

Next Generation Networked Hardware (Level 7)

Students are exposed to current and upcoming developments in the context of networked hardware and apply these in a project-oriented environment.

Developing Flexible IT Courses (Level 7)

Prepares students for the training role that is often performed by information technology professionals.

+ Your workload

Most IT courses are worth 15 credits and are the equivalent of four hours contact time per week. A full-time programme will usually consist of four courses per semester. During an average week, you will be expected to undertake 16 hours of directed learning and an additional 15-20 hours of self-directed study completing assignments and reading.

+ Qualification structure

Code	Course Title	Level	Credit
YEAR ONE (complete all)			
IN501001	Professional Practice for Information Technology	5	15
IN505001	Introduction to Systems Analysis	5	15
IN510001	Programming 1	5	15
IN511001	Programming 2	5	15
IN512001	Web 1 - Technology and Development	5	15
IN515001	Introduction to Networks	5	15
IN520001	PC Maintenance	5	15
IN521001	Maths for IT	5	15
YEAR TWO (complete 120 credits from any of the following)			
IN601001	Professional Practice 2: Vocational Skills for Information Technology	6	15
IN602001	Software Engineering	6	15
IN603001	Project Management: Managing Projects in the IT Industry	6	15
IN605001	Databases 2	6	15
IN610001	Programming 3	6	15
IN612001	Web 2 - Programming	6	15
IN628001	Programming 4: Intermediate Architecture and Algorithms	6	15
IN614001	Multimedia Development	6	15

IN615005	Routing and Switching Essentials	6	15
IN616001	Operating Systems Concepts	6	15
IN617001	Linux Operating Systems	6	15
IN618001	Security	6	15
IN620001	Embedded Systems	6	15
IN621001	Automation and Robotics	6	15
IN627001	Quality Assurance and Software Testing	6	15
YEAR THREE (Complete Project 1, Project 2, 60 Level 7 Credits and further 15 Credits at Level 5 or above)			
IN700001	Project 1	7	15
IN700002	Project 2	7	30
IN703001	Developing Flexible IT Courses	7	15
IN705001	Databases 3	7	15
IN710001	OO Systems Development	7	15
IN711001	Algorithms and Data Structures	7	15
IN712001	Web 3 - Enterprise Development	7	15
IN715002	Networks Administration	7	15
IN719001	Systems Administration	7	15
IN720001	Administering a Virtual Infrastructure	7	15
IN721001	Design and Development of Applications for Mobile Devices	7	15
IN722001	Next Generation Networked Hardware	7	15
IN723001	Advanced Networking	7	15
IN726001	Data Science and Machine Intelligence	7	15

+ Student loans and allowances

Student loans and allowances are for domestic students only. For information about student loans and allowances please visit the Studylink website. It is important to apply for your student loan/allowance at the same time as you apply for this programme, due to the length of time Studylink take to process. Loan/allowance applications can be cancelled at any time if you decide to withdraw your programme application or if it is unsuccessful.

+ Recognition of prior learning

If you have extensive knowledge and skills due to practical experience in this area, enquire about our recognition of prior learning process at Capable NZ. You may have already gained credits towards this qualification.

+ Disclaimer

While every effort is made to ensure that this sheet is accurate, Otago Polytechnic reserves the right to amend, alter or withdraw any of the contained information. The fees shown in this document are indicative ONLY. Both domestic and international fees are subject to change and are dependent on

the development and implementation of Government policies. Please note that additional fees may from time to time be required for external examination, NZQA fees and/or additional material fees.



International **+64 3 477 3014**
New Zealand **0800 762 786**
Email **info@op.ac.nz**

Dunedin Campus
Forth Street, Dunedin
Private Bag 1910
New Zealand 9054

Central Otago Campus
Corner Erris & Ray Streets
PO Box 16, Cromwell
New Zealand 9342

Auckland Campus
Level 2, 350 Queen Street
PO Box 5268, Auckland
New Zealand 1141