

Bachelor of Computing Systems

The Bachelor of Computing Systems at Tairāwhiti focuses on automation, IoT, web, databases, and analytics to meet both employment opportunities locally and internationally.

This degree will develop your critical and systems thinking skills and the core programming, hardware, information processing and soft skills required by IT professionals to deliver high quality computing solutions.

As part of your programme you will undertake a major industry-based project or internship. This provides an opportunity for you to demonstrate your potential to employers, experiencing "real world" computing and hone your soft-skills within a professional IT environment.

LOCATION	Tairāwhiti (also offered at Hawke's Bay - see separate information pack)
START	February and July
LENGTH	Three years full-time*
CONTACT	Amandeep Kaur Phone: 06 830 1203 Email: akaur@eit.ac.nz

**Part-time study available.*

A new version of this programme is coming soon

This programme is currently being unified with others across Te Pūkenga to provide one programme that is portable, consistent, and more closely aligned with the needs of industry. This is a good thing but does mean that there will be some changes to the information below. Enquire at eit.ac.nz to receive the latest updates on the new programme.





TE AHO A MĀUI

For NZ Citizens and Permanent Residents



Te Pūkenga

EASTERN INSTITUTE OF TECHNOLOGY

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Enjoy a career in NZ's best-paid industry

The Bachelor of Computing Systems (BCS) is a three-year full-time (or equivalent part-time) undergraduate degree programme, providing a proven pathway into an IT career in one of a myriad of technology-based roles. These range from internet, web and mobile devices and enterprise software development through infrastructure provisioning and support, industrial automation and machine learning, to data and database administration, analytics and IT Management.

In particular, the programme is designed to:

- ▶ Provide a well-defined and relevant core curriculum, with scope for rapid and flexible adoption of new technologies as the frontiers of knowledge expand.

- ▶ Prepare you to be effective in a variety of professional roles, with the technical expertise needed to be productive in the chosen discipline.
- ▶ Promote independent learning and professionalism to ensure productivity and continued relevance.
- ▶ Provide flexible study modes to enable you to personalize your programme of study.
- ▶ Embed critical thinking and problem solving exercises to extend student analysis and research and delivery.

You are warmly invited to make an appointment to discuss your study options with our staff and to view our facilities.

YOUR FUTURE CAREER & STUDY OPPORTUNITIES

Entry-level IT roles and career prospects for graduates with additional work experience, include:

- | | |
|--|--------------------------|
| ▶ Software Developer / Programmer | ▶ Hardware Technician |
| ▶ Network Support Administrator | ▶ Internet Developer |
| ▶ Web Administrator | ▶ Database Administrator |
| ▶ Network Security and Data Protection | ▶ Systems Analyst |
| ▶ Data Analyst | ▶ Systems Engineer |
| ▶ Industrial Automation Technician | ▶ Systems Designer |
| ▶ Project Leader | ▶ Computer Consultant |
| ▶ Information Systems Manager | |

Progress your study pathway with a postgraduate qualification or the Master of IT.

WHAT YOU NEED TO KNOW

Bachelor of Computing Systems

LEVEL	7	CREDITS	360
LENGTH	Three years full-time or equivalent part-time	FEE*	\$850 approximately per 15 credit course

* This is a guide only based on the previous year. All costs quoted include GST and student services levy. Fees apply to New Zealand citizens and New Zealand permanent residents only.

INDUSTRY-BASED TRAINING

The BCS aims to deliver graduates possessing a broad range of practical skills, therefore all courses include a significant practical component. There are two compulsory Level 7 30-credit capstone courses requiring learners to complete either a 600 hour internship IT role, embedded within a suitable organisation, or to undertake approved information systems analysis and development work in a commercial environment. The capstones are completed over the last two terms of study.

PARTNERSHIPS

EIT | Te Pūkenga is proud of our relationship with local IT providers and employers, which ensures the continuing relevance of our courses, and leverages our qualifications and resources for the benefit of learners, employers and the region.

2023 KEY DATES

INTAKE ONE

Programme starts Monday, 13 February

INTAKE TWO

Programme starts Monday, 17 July

SEMESTER HOLIDAYS

7 April - 21 April

26 June - 14 July

25 September - 6 October

YEAR ENDS

Friday, 24 November

TIMETABLE

Your study time will be made up of on-campus instruction (lectures, laboratories and tutorials) and non-contact time (your own individual study time, online learning).

Contact Time

On campus classes are scheduled between 8.00am - 5.00pm, Monday to Friday.

A full-time study workload would include FOUR concurrent courses.

On-campus instruction for each course would ordinarily consist of two to three sessions totalling four hours per course per week, which you will need to supplement with a further six hours per course per week of individual study time (i.e. a total expected study investment of 10 hours per week per course). A full-time study workload would require a dedicated 40 hours per week.

ADDITIONAL COSTS

- ▶ \$120 approximately per course for textbooks and/or equipment

You are advised to purchase suitable equipment to sustain studies in the computer field, and BYOD is encouraged for use in class, though workstations are supplied for all laboratory work.

ENTRY CRITERIA

A personal interview may be part of the application process.

Applicants must meet one of the following criteria:

- ▶ University Entrance; or
- ▶ The NZ Certificate in Information Technology Essentials [Level 4]; or
- ▶ An equivalent qualification.

Provisional Entry

Applicants who do not meet the criteria above, but present evidence of ability to succeed (e.g. maturity, life experience, work experience, other study) may be provisionally admitted into the programme. Entry to subsequent study is conditional on satisfactory academic progress.

Alternatively, applicants may be advised to enrol in either:

1. The stand-alone NZ Certificate in Information Technology [Level 4]. Upon successful completion of this programme graduates would be eligible for enrolment in the BCS; or
2. The NZ Certificate in IT Essentials [Level 5]. Upon successful completion of this programme graduates would be eligible for enrolment onto the second year of the BCS.

The Dean may apply discretion to these regulations in exceptional circumstances.

Other Requirements

Mathematics, Algebra, and Computer literacy is highly recommended in order to be able to cope with the conceptual and practical components of this programme.

Please Note

- ▶ Entry to subsequent study is conditional upon satisfactory academic progress.

ENGLISH LANGUAGE ENTRY REQUIREMENT

Applicants whose first language is not English must have an acceptable level of English language fluency prior to enrolment in the programme. This may be demonstrated in a variety of ways, including schooling in New Zealand, completion of the relevant New Zealand Certificate in English Language, approved scores on IELTS tests or completion of accepted international equivalents. Specific scores for IELTS and New Zealand Certificates in English Language are as follows:

- ▶ IELTS 6.0 Academic (no band score lower than 5.5)
- ▶ NZCEL Level 4 with an Academic endorsement

ENTRY WITH CREDIT

You may already have some knowledge or skills that can be recognised as part of your intended study. This may take a number of different forms, including study while at high

school, study at a private training establishment, workplace training, other tertiary study, life experiences or voluntary work. If you think you may qualify, you may want to apply for Cross Credit (CC) or Recognition of Prior Learning (RPL).

- ▶ CC is based on the equivalency of courses or qualifications. You would apply for CC if you have passed a very similar course at the same level.
- ▶ RPL is based on the assessment of your current knowledge and skills. You would apply for RPL if you had gained the relevant knowledge and skills through life experiences and informal learning situations.

You will be asked to provide details of anything that you would like considered as credit towards your intended programme of study, as part of your application.

You must apply prior to enrolment. CC and RPL cannot be awarded for a course if you are already enrolled in that course. An original transcript or notice of results from the institute at which you previously studied (or verified copies) will be required for all applications.

For further information and enquiries about CC and RPL please contact the Programme Administrator on 06 830 1203.

FACILITIES

The Tairāwhiti campus includes extensive learning environments, including specialized computer laboratories for both standard and school of computing specialist coursework.

ASSESSMENTS

All assessments in the Bachelor of Computing Systems courses are marked internally. Assessments include assignments, tests and practical demonstrations.

DEGREE ELECTIVES

A list of degree electives from other degree programmes as elective courses is available. Please call the Infoline on 06 974 8918 OR 0800 22 55 348.

YEAR 13 SCHOLARSHIP

EIT | Te Pūkenga offers a limited number of Year 13 Scholarships to eligible Taupō, Hawke's Bay and Tairāwhiti (Gisborne) students who are beginning an undergraduate degree in 2023. You can study any one of our 13 degrees or selected level 5 certificate and diploma programmes that pathway into a degree.

If you live outside the Taupō, Hawke's Bay or Tairāwhiti regions there are scholarships available nationwide for a selected few programmes. Go to scholarships.eit.ac.nz to find out which programmes you can apply for.

For full information about the Year 13 Scholarship check out scholarships.eit.ac.nz, email scholarships@eit.ac.nz or text your name, address and the word YR13 to 4631 and we will send you a Year 13 Scholarship pack.

EIT IS NOW PART OF TE PŪKENGĀ

Te Pūkenga will bring together New Zealand's Institutes of Technology, Polytechnics, and Industry Training Organisations to build a network of on job, on campus and online learning. The services we offer will not only remain, they will be strengthened by being part of the extensive Te Pūkenga network around the country. Your enrolment for study in 2023 will see you enrolling with Te Pūkenga and becoming part of the extensive Te Pūkenga network around the country.

THE EXPERIENCE YOU NEED & THE SUPPORT TO SUCCEED

When you study at EIT | Te Pūkenga you'll get the kind of experiences that will help you gain the knowledge and skills to get ahead.

You'll also be supported by lecturers and tutors who are here for you, within a learning environment where you are treated as an individual, not just a number. They'll know your name and you'll receive one-on-one attention to make sure you get the support to succeed.

EXPERIENCED LECTURERS

At EIT | Te Pūkenga, you can be confident in the quality of our teaching and your learning experience.

EIT | Te Pūkenga is highly regarded in New Zealand for research excellence due to the quality of our community centred research, our publications and our external grant income provided by funding institutions who have confidence in our research capability. You can be confident your lecturers use the latest knowledge and research in their field of expertise to inform their teaching, and many are at the forefront of knowledge creation within their discipline area.

Our lecturers are highly trained professionals with particular areas of expertise in information systems. Staff also maintain contact with other professionals through organisations such as the Institute of Information Technology Professionals.

NAME	QUALIFICATION
John West <i>Head of School</i>	
Geoffrey Mather <i>Assistant Head of School</i>	
Ian Purdon <i>BCS Programme Coordinator</i>	BBS (Econ), DipBus (IS), PGDipIT
John Jamieson <i>BCS Course Coordinator</i>	MIT, BTech (Info Tech), NDipIT
Tairāwhiti Campus	
Ian Allan	BCS
Tina Blumenthal	PGDipIT, BCS
Steve Main	DipAdEd, NCertAutEIEt, NCertAdLitNu

NAME	QUALIFICATION
Ken York	ME, BSc
Hawke's Bay Campus	
Dr Noor Alani	PhD
Dr Daniel Dang	PhD
Dr Emre Erturk	PhD, MS, BA
Karam Khokra	MSc, MIT (CompEng), BSc, NZCertAdTT
Istvan Lengyel	MIT, PgDipSc
Robyn Pascoe	BCS, DipBC
Graham Ward	PGDipIT (in progress)

PROGRAMME INFORMATION

To graduate with a BCS Degree, students must have passed degree courses at Level 5 to 7 worth 360 credits, including the two 30 credit capstones undertaken during the last semester of study. The structure of the degree is summarised in the following table. The courses and their co-requisites and pre-requisites are appended.

These courses are subject to change please contact the Programme Administrator for an up to date course list.

EIT | Te Pūkenga reserves the right to change timetables. Courses may be offered in different timeslots or cancelled if there is insufficient enrolment. Textbooks and/or equipment are required for several courses - these additional costs are not included in the course fees noted.

LEVEL	5	6	7	electives 6 to 7	Total
CREDITS	120	120	90	30	360

The courses we are offering for the Bachelor of Computing Systems (Tairāwhiti) programme in 2023 are as follows:

Year One - Level 5

COURSE NO.	BRIEF DESCRIPTION	NO. OF CREDITS	NZQA LEVEL	SEMESTER OFFERED
ITIS5.450	Information Systems To provide learners with an economic and organisational context and the skills to identify requirements and suitable solutions in the application of Information Technologies and Systems.	15	5	1
ITUX5.210	UX and UI Fundamentals To equip learners with knowledge and skills to elicit requirements for human-computer interfaces, and to design, prototype, and evaluate user experiences and interface designs.	15	5	1
ITDT5.220	Introduction to Data Concepts To provide learners with fundamental knowledge and skills of the data concepts central to all Information Systems.	15	5	1
ITPM5.240	Agile Projects To provide learners with fundamental project management concepts and skills used in an IT context.	15	5	1
ITPF5.110	Programming Fundamentals To provide learners with the core knowledge and skills, using software development tools to create a working application to meet given requirements.	15	5	2
ITWD5.130	Website Development To provide learners with the knowledge and skills to create a static website which meets a specific client brief.	15	5	2
ITCS5.100	Computer Systems Architecture This course provides learners with the knowledge and skills required to successfully plan, construct, and maintain, a modern PC-based computer system, with emphasis placed on safe and effective industry practices.	15	5	2
ITCT5.120	IT Concepts And Tools To provide learners with the knowledge and skills of IT tools and concepts used within organisations, and their impact on business and professional communication practices.	15	5	2

Year Two - Level 6

COURSE NO.	BRIEF DESCRIPTION	NO. OF CREDITS	NZQA LEVEL	SEMESTER OFFERED
ITPM6.318	Project Management To provide learners with the knowledge and skills of formal project methodologies, using best-practice project management frameworks and techniques to select, plan, execute and control projects to successful conclusion.	15	6	1
ITSD6.348	Systems Analysis To provide learners with the knowledge and skills to analyse complex information systems, identify problems and requirements and document and model these findings using appropriate methods, tools and diagrams. <i>Pre-requisite: ITIS5.540 Information Systems ITDT5.228 Introduction to Data Concepts</i>	15	6	1

COURSE DESCRIPTIONS

PLEASE NOTE: This programme is currently being unified with others across Te Pūkenga to provide one programme that is portable, consistent, and more closely aligned with the needs of industry. This is a good thing, but does mean that there will be some changes to the information below. Enquire at eit.ac.nz to receive the latest updates on the new programme.

NB: Courses are offered subject to sufficient enrolments being received.

In the following descriptions:

Pre-requisite = courses which must be studied before.

Co-requisite = courses which can be studied before or at the same time.

COURSE NO.	BRIEF DESCRIPTION	NO. OF CREDITS	NZQA LEVEL	SEMESTER OFFERED
ITSD6.349	Systems Design To provide learners with the knowledge and skills to design information systems solutions, using appropriate modelling, prototyping and documentation tools and methods. <i>Pre-requisite: ITSD6.348 Systems Analysis</i>	15	6	1
ITPR6.508	Advanced Object-Oriented Programming To provide learners with the knowledge and skills to design and develop software using all the facilities of an object-oriented programming language, and object-oriented design modelling and concepts. <i>Pre-requisite: ITPF5.110 Programming Fundamentals</i>	15	6	1
ITHW6.238	Electronics and Internet of Things Technology To provide learners with appropriate knowledge of electronics and technical skills required to work with in a computing hardware in an IoT setting. <i>Pre-requisite: ITCS5.100 Computer System Architecture</i>	15	6	1
ITPR6.358	User Experience and User Interfaces To provide learners with knowledge and skills of industry based theory and methods for the design and development of successful user interfaces, user experience (UX), and prototyping	15	6	1
ITDF6.100	Digital Forensics Fundamentals To equip learners with the knowledge and skills to use appropriate computer forensics tools and techniques to contribute towards diagnostics and evidence gathering. <i>Pre-requisite: ITSD6.348 Systems Analysis</i>	15	6	1
ITPR6.518	Enterprise Software Development To provide learners with the knowledge and skills to design, develop, maintain and deploy software to support enterprise systems. <i>Pre-requisite: ITPR6.508 Advanced Object-Oriented Programming</i>	15	6	2
ITDB6.208	Database Management Systems To provide learners with the knowledge and skills to apply the principles of database design and management using database software, to create and implement a database using standard database tools. <i>Pre-requisite: ITDT5.228 Introduction to Data Concepts</i>	15	6	2
ITOS6.608	Operating Systems To provide the learners with a general understanding of a modern operating system and the necessary skills to install and carry out various administrative tasks. <i>Pre-requisite: ITCS5.100 Computer System Architecture</i>	15	6	2
ITAE6.100	Automation and Embedded Systems To introduce learners to the theory and application of industrial automation ,with focus on how to build solutions to real-world problems using embedded systems. <i>Pre-requisite: ITCS5.100 Computer System Architecture</i> <i>Co-requisite: ITHW6.238 Electronics and IoT</i>	15	6	2
ITMA6.240	Maths in Information Technology To provide learners with relevant mathematics theory and skills for use in general and applied IT. <i>P: ITDT5.228 Introduction to Data Concepts</i>	15	6	2
ITKM6.398	Knowledge Management To provide learners with the theory, tools and skills to retain and use institutional knowledge and the practical strategies to implement KM programmes into the workplace. <i>Pre-requisite: ITIS5.450 Information Systems</i>	15	6	2
ITWD6.408	Advanced Internet and Web Page Development To provide learners with the knowledge and skills of client-side web development and website management. <i>Pre-requisite: ITWD5.130 Website Development</i>	15	6	2
ITDC6.218	Data Communications and Networking To equip learners with practical skills in switched networking environments. Learners will apply knowledge from Level 5 Computer System Architecture to design and implement networks using modern data communications tools and equipment. <i>Pre-requisite: ITCS5.100 Computer System Architecture</i>	15	6	2
ITNA6.258	Advanced Network and the Cloud To provide learners with general knowledge of a Network Operating System, and the necessary skills to install and carry out various administrative tasks. <i>Pre-requisite: ITCS5.100 Computer System Architecture</i> <i>Co-requisite: ITDC6.218 Data Communications and Networking</i>	15	6	2

Year Three - Level 7

COURSE NO.	BRIEF DESCRIPTION	NO. OF CREDITS	NZQA LEVEL	SEMESTER OFFERED
ITST7.408	Special Topic	15	7	1 & 2
ITSY7.668	Cybersecurity To provide learners with the knowledge and skills to apply information systems security/forensics concepts, identify security risks, and derive contingency plans and policies. <i>Pre-requisite: ITDC6.218 Data Communications and Networking</i>	15	7	1
ITDA7.240	Data Analytics To provide learners with knowledge and skills to use industry standard data analysis tools and techniques to derive and present meaningful and useful information. <i>Pre-requisite: ITPF5.110 Programming Fundamentals ITDT5.228 Introduction to Data Concepts ITDB6.208 Database Management Systems ITMA6.240 Maths in IT</i>	15	7	1
ITGA7.100	GIS Analytics To provide learners with knowledge and skills to use appropriate GIS analytics tools and techniques to present meaningful and useful GIS information. <i>Pre-requisite: ITDB6.208 Database Management Systems</i>	15	7	1
ITPR7.508	Business Application Programming To provide learners with knowledge and skills to develop a business application from a specification. <i>Pre-requisite: ITPR5.518 Introduction to Object-Oriented Programming ITPR6.508 Advanced Object-Oriented Programming ITWD6.408 Advanced Internet and Web Page Development</i>	15	7	
ITWD7.358	Web Application Programming To provide learners with the knowledge and skills to develop client-server web-based application. <i>Pre-requisite: ITPR5.518 Introduction to Object-Oriented Programming ITIM5.238 Internet and Mobile Technology ITWD6.408 Advanced Internet and Web Page Development</i>	15	7	1
ITEC7.398	E- Business Strategies To provide learners with the knowledge and skills to evaluate and analyse the drivers of successful e-business strategies for organisations. <i>Pre-requisite: ITKM6.398 Knowledge Management</i>	15	7	2
ITHW7.238	Enterprise Support and Infrastructure To provide learners with the technical knowledge and skills to plan, prepare, and manage, a range of enterprise technologies, configurations, and infrastructure. <i>Pre-requisite: ITET6.238 Electronics and Technology in IT ITDC6.218 Data Communications and Networking</i>	15	7	2
ITAI7.110	Machine Learning and Artificial Intelligence To provide learners with the knowledge and skills to apply machine learning and artificial intelligence theories and technologies to solve real-world problems. <i>Pre-requisite: ITAE6.100 Automation and Embedded System ITHW6.238 Electronics and IoT</i>	15	7	2
ITFM7.120	Mechatronics in IT To provide learners with knowledge and skills of feedback control, electro-mechanical system interfaces, and the software and electronics that enable robotics. <i>Pre-requisite: ITAE6.100 Automation and Embedded System ITHW6.238 Electronics and IoT Co-requisite: ITAI7.110 Machine Learning and Artificial Intelligence</i>	15	7	2
ITCP7.001	Capstone 1 To provide the learners with the knowledge and skills to undertake an in-depth focussed investigation into aspects of a chosen Information Technology domain. <i>Pre-requisite: A pass in ALL Level 5 and 6 courses</i>	30	7	1 & 2
ITCP7.002	Capstone 2 To provide learners with the opportunity to apply the knowledge and skills gained during their computing studies in a organisational context. <i>Pre-requisite: A pass in ALL Level 5 and 6 courses</i>	30	7	1 & 2

How to Enrol

There is an easy 3-step process to follow when enrolling at EIT | Te Pūkenga.

Step 1

Check out the programmes online at eit.ac.nz to see the programmes available for you to study. A copy of the course information for each programme is available online.

Step 2

You can now use your RealMe verified identity to apply for study at EIT | Te Pūkenga. If you use your RealMe verified identity you will no longer be sent a copy of your application form to sign. You also will not need to provide us with a copy of your primary ID.

If you apply online without using RealMe then you will be sent a summary of your enrolment to check and sign. It will also include course selection forms which you need to complete and return. Your enrolment cannot progress until you have sent the summary and forms back to us.

You can also apply using a paper enrolment form. Please call us on **0800 22 55 348** and we will send you one out.

You will receive an acceptance letter from your Faculty with

programme information. This will include the start date of your study and any special information regarding your programme. Depending on your chosen programme of study, you may be invited to attend an interview before you are accepted.

Step 3

Arrangement for full payment of enrolment fees must be made before the start of your programme. You will receive an invoice with payment details.

Fees-Free government scheme: Tertiary education is fees-free for eligible domestic tertiary students. To check if you are eligible, go to FeesFree.govt.nz and enter your National Student Number (NSN). If you are not eligible you will be responsible for paying your fees.

Scholarships and grants: Scholarships and grants make life easier by helping to cover your fees, other costs and living expenses while you study. You don't always need to be an academic high-flyer to qualify. You can find out more about scholarships and other options for paying your fees at eit.ac.nz.

StudyLink: If you need to pay for your own study you can choose to apply for your Student Loan and Student Allowance with StudyLink. You should do this early, even if you haven't yet been accepted on your programme. You can change your details later if anything changes. Visit studylink.govt.nz to find out more about StudyLink.

Student Services Levy

The Student Services Levy is a compulsory non-tuition fee that is charged to students enrolled at EIT | Te Pūkenga. The levy is to contribute to the provision of quality student services that support learning. The funds received by EIT | Te Pūkenga from the levy are ring-fenced, meaning they can only be spent on student services.

Student Loans and Allowances

StudyLink is a service of the Ministry of Social Development. Apply well before your programme begins (even if you haven't been accepted yet) so you'll be ready to get your payments when you need them most.

Check out what you qualify for at studylink.govt.nz.



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