



# Postgraduate Certificate in Connected Environments

Information Handbook





This information handbook provides applicants with an introduction to Tech Futures Lab<sup>1</sup> and the Postgraduate Certificate in Connected Environments ('Programme')<sup>2</sup>. It outlines the expectations and requirements of the Programme. A more detailed version of this handbook will be provided to all students upon enrolment.

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<sup>1</sup> Tech Futures Lab is an education facility of The Mind Lab. The Mind Lab is a Private Training Establishment (PTE) registered by the Tertiary Education Commission (TEC) to deliver [qualifications approved](#) by the New Zealand Qualifications Authority (NZQA) under the provision of the Education Act 1989. All policies and procedures of The Mind Lab also apply to Tech Futures Lab. Terms and Conditions, Policies and Declarations that relate to The Mind Lab also relate to Tech Futures Lab unless expressly stated otherwise.

<sup>2</sup>Kua whakamanahia tenei akoranga e Te Mana Tahu Matauranga o Aotearoa i raro i te wahanga 249 o te Ture Matauranga 1989, a, kua whakamanahia The Mind Lab Limited Partnership ki te whakarato i taua akoranga i raro i te wahanga 250 o te Ture. This programme is approved by the New Zealand Qualifications Authority under section 249 of the Education Act 1989, The Mind Lab Limited Partnership is accredited to provide it under section 250 of the Act.

## The Mind Lab and Tech Futures Lab

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[The Mind Lab](#) is a specialist education provider dedicated to enhancing contemporary practice, digital fluency and change in education across New Zealand. The Mind Lab is committed to helping implement contemporary practice in the teaching profession by reflecting new theoretical and practical frameworks of contemporary education.

Tech Futures Lab is a subsidiary of The Mind Lab. Established in 2016, Tech Futures Lab helps professionals and organisations to adapt, learn, lead and succeed in a fast-changing world. Tech Futures Lab was built on the vision of building business success and personal capability in New Zealand, to turn emerging opportunities into impactful realities, to advance and develop business capability, and to positively impact the economy, the environment, and communities for a brighter future.

At The Mind Lab and Tech Futures Lab, a kaupapa Māori approach ensures that students, facilitators, practitioners, and researchers have the community and their colleagues at the heart of their professional practice, study and research. Positive relationships between people and places are at the center of our philosophy and values for teaching and learning. As an institution, the following organisational kaupapa Māori values drive our practice:

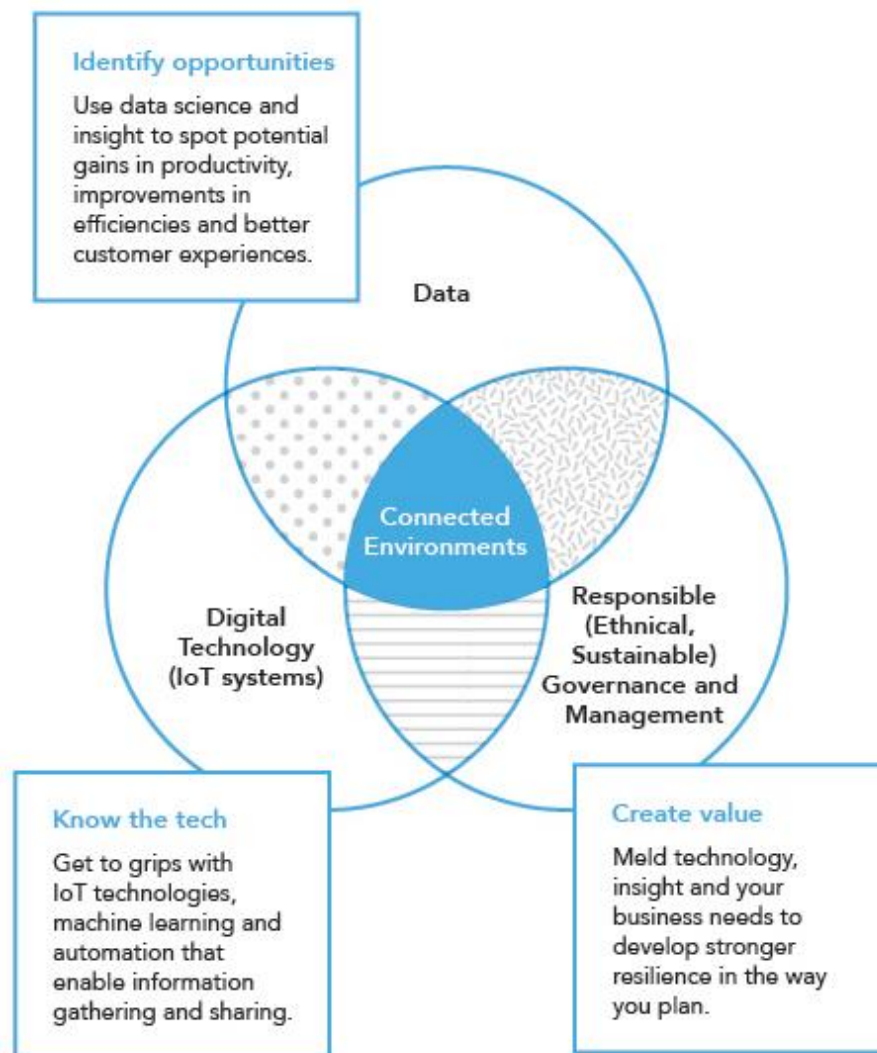
- Manaaki: that learners are interconnected with The Mind Lab teaching and learning community during their study
- Rangatiratanga: Leadership, accountability, agency and authority
- Ako: our way of reciprocal teaching and learning
- Pono: truth, honesty, integrity and transparency

## Postgraduate Certificate in Connected Environments

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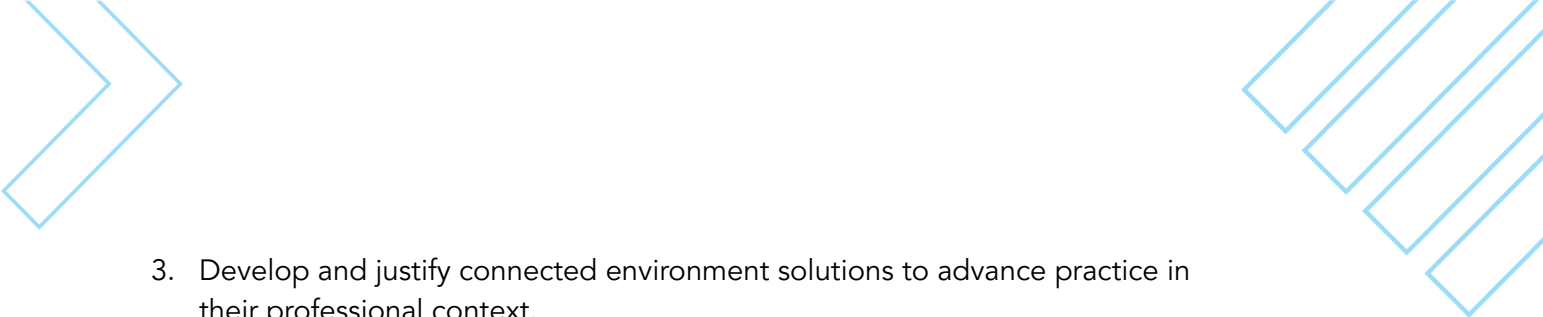
The Postgraduate Certificate in Connected Environments (PGC-CE) aims to provide opportunities for professionals to enhance existing business and/or technical capabilities to design and develop connected environments that leverage systems and services enabled by the Internet of Things (IoT) in relevant industries, sectors or communities. Specifically, the qualification will provide individuals with knowledge of the multiple dimensions of connected environments (depicted below) supporting New Zealand organisations to capitalise on technology to make effective and informed decisions.

Tech Futures Lab is proudly partnering with Spark New Zealand to deliver the Postgraduate Certificate in Connected Environments. This partnership will enable students to work with connectivity hardware and have access to IoT industry knowledge and expertise.



Graduates of the *PGC-CE* will be able to:

1. Identify and evaluate opportunities for connected environment systems and technologies to provide solutions in their relevant industries, sectors and communities.
2. Evaluate the multiple dimensions of connected environments including associated governance, management and ethical issues.

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3. Develop and justify connected environment solutions to advance practice in their professional context.

The technical and business dimensions of connected environments will be explored in detail using a whole systems approach to unravel the complexities of environments (both physical and organisational). IoT (Internet of Things) will be explored as a core technical enabler of connected environments. Global and local case studies will be used to evaluate and critically reflect on the opportunities and challenges connected environments can afford. Data collection, analysis and visualisation, as well as the ethical management of data will be explored in detail. The sustainability of connected environments to provide long-term benefits and insights for industries, sectors and communities is also explored.

The following principles, aligned to the organisational values described above, seek to foster a more inclusive IoT community in New Zealand and inspire more New Zealanders to innovate with connected environments.

1. Inspire students with the right questions

Most discussion around connected environments involves IoT technology and its specificity of networks. This technical first lens has prevented many people and organisations from participating in the industry. Tech Futures Lab can help students think broadly on what connected environments may enable and push your thinking to new solutions for problems you are experts on.

2. Empower students to participate in connected environments / IoT

People can be easily intimidated by highly technical industries. However, the basics of IoT can be learned fairly easily with a weekend and an arduino kit. This initial push can make those who feel technically insecure more confident and build a foundation for understanding connected environments at a larger scale.

3. Build capabilities in data

Data is the very core of connected environments. For IoT and new connected environments to thrive, there must be architects who can establish networks that can capture multiple types of data, innovators who can think of new ways data can empower systems, experts who can read and give meaning to data, and people who can articulate the value of data and commercialise it.

The applications of Connected Environments are far-reaching and have potential to deliver positive enhancements for nearly every sector and industry. Students will be able to bring their experience and detailed understanding of the business needs, systems and frameworks you operate in, to overlay strategies that capitalise on the opportunities Connected Environments can offer.

# Application for admission to the Programme

Applications to the Programme are made through the Tech Futures Lab [enrolments site](#). This is where all required details and documentation for enrolment are provided by applicants to be processed, and payment method selected.

## Eligibility

To be admitted to the PGC-CE, all applicants must:

- have a recognised bachelor's degree or equivalent professional qualification or higher in business and/or a relevant technical field AND a minimum of two years relevant industry experience

Or

- have at least four years' professional experience in a relevant industry or community, and/or relevant technical field demonstrating equivalence or higher to the qualification stated above.

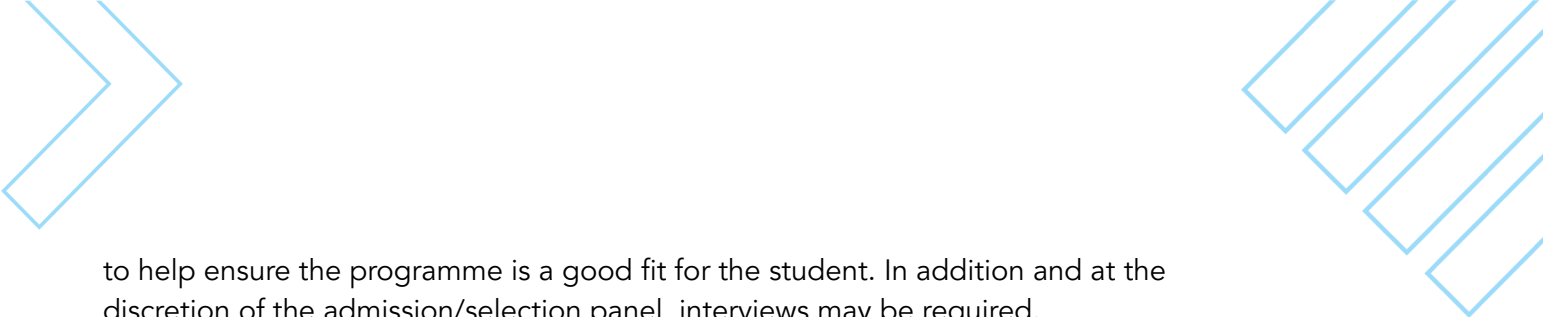
## English Language Admission Requirements

Applicants whose first language is not English must provide evidence of English language competence. This evidence may be in the form of:

- A formal test of English Language
  - IELTS academic band score of 6.5 (overall), with no individual band less than 6.0.
  - TOEFL - Internet-based (Score of 95 with a minimum writing score of 22) or Paper-based (score of 587 (TWE 4.5))
  - Cambridge Certificate in Advanced English (CAE) Minimum of 176 or Certificate of Proficiency in English (CPE) Minimum of 176
  - Pearson Test of English (PTE) Academic Overall score of 64 with no communicative skills score below 57
- Evidence of an academic qualification at level 7 or above, completed in a country where English is the main language
- Professional outputs or achievements in English language that can be evidence of competence equivalent to any of the above.

## Admission

For admission into the Programme all applicants are required to complete a brief Statement of Intent (there is a template for this provided during the application process). The Statement of Intent is used to ensure applicants understand the programme, and to allow Tech Futures Lab



to help ensure the programme is a good fit for the student. In addition and at the discretion of the admission/selection panel, interviews may be required.

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

- demonstrated achievement, interest in connected environments, and self-reflection
- relevance of experience in an industry or community
- high level of achievement in relevant prior academic and professional outputs

Following an applicant's official acceptance of the offer of a place on the Programme, and providing the required documentation is in order, the applicant will be enrolled as a student on the Programme.

### **Verification of Enrolment**

The Tech Futures Lab enrolments team will verify applications as they come through and request further information from applicants if required. Applicants will receive an email notification confirming their enrolment is complete.

### **Credit Recognition and Transfer and Assessment of Prior Learning**

The Mind Lab and Tech Futures Lab have robust processes for the recognition of learning and award of credit by formal, informal and non-formal learning. For example, professional experience can be assessed to determine eligibility to enter the programme (see eligibility above).

However, it is important to note that the award of credits via Assessment of Prior Learning or direct cross crediting of courses from other programmes does not usually apply to our work-based and highly-integrated programmes and courses. For instance, assessments are often integrated across courses. Applications will be assessed on a case-by-case basis. Please contact [admissions@techfutureslab.com](mailto:admissions@techfutureslab.com) for more information.

[The Mind Lab Recognition and Assessment of Prior Learning Policy and Procedures](#) apply to any process that evaluates formal learning (including cross-crediting and transfer of formal learning to The Mind Lab courses, programmes and qualifications) and the Assessment of Prior Learning (APL) by informal and non-formal learning.



## Fees, Scholarships, Discounts and Payments

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This section of the Student Handbook outlines information about the Programme fees, scholarships that Tech Futures Lab provides, Studylink options and refund entitlements.

### Tuition Fees

The tuition fee for the Programme in 2020 is \$5,890 (incl. GST). The fee for the Programme is due 7 days prior to the advertised start date of the Programme.

The Mind Lab and Tech Futures Lab comply with NZQA's Student Fee Protection Rules which protect the interests of domestic and international students. The Mind Lab has a Standard Trust Account with the NZQA-approved fee protection supplier, Public Trust, that ensures the safe protection of student fees over the value of \$500. For further information see [The Mind Lab Student Fee Protection Policy and Procedures](#).

### Scholarships

We believe education should be accessible to anyone who chooses to put themselves forward to learn. A NZ Productivity Scholarship can be that one key needed to unlock opportunity for people, someone, to shine. Due to the higher value of this scholarship, it replaces the Māori and Pacific Ako Scholarships for both the 2021 Postgraduate Certificate in Connected Environments and Postgraduate Certificate in Human Potential for the Digital Economy cohorts only.

#### New Zealand Productivity Scholarship

As recognition of the urgent need for New Zealand businesses, organisations and individuals to upskill for a digitally led future, where New Zealand can remain competitive on a global stage, Tech Futures Lab has created the New Zealand Productivity Scholarship.

This unique opportunity will cover 100% of the tuition fee for the Postgraduate Certificate in Connected Environments. There are 40 places available for each of the eligible programmes and scholarships will be granted on a first-come first served basis (based on fully completed enrolments). This scholarship is only available on this August 2021 intake.

See our [website](#) or contact Tech Futures Lab at [admissions@techfutureslab.com](mailto:admissions@techfutureslab.com) for more information.

## Refund Entitlements

A student who has already enrolled in the Programme and decides to withdraw has different refund entitlements depending on when they withdraw.

At the time of application, students must agree to the [The Mind Lab Student Terms and Conditions](#) before we can process an enrolment into the Programme. These Terms and Conditions include all [withdrawal scenarios and refund entitlements](#) withdrawal scenarios and refund entitlements for the Postgraduate Certificate in Connected Environments. Some useful dates for consideration around enrolments, variations and withdrawals for the upcoming intakes are outlined in the table below.

## Key Enrolment Dates

### August Intake 2021

Course	Course Start Date	10% Cut off Date	75% Cut off Date	Course End Date
CENV8001	11 Aug 2021	22 Aug 2021	30 Oct 2021	07 Dec 2021
CENV8002	08 Dec 2021	22 Dec 2021	22 Mar 2022	26 Apr 2022



## Programme Information

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This section of the Student Handbook details important Programme information including structure, delivery, an academic calendar and any other important information about the Programme itself that will be useful to help you make an informed decision.

### **Programme Structure**

The Postgraduate Certificate in Connected Environments is a 34 week, part time programme, structured into two parts: the Discovery Phase and the Applied Learning Phase.

The programme's two courses run sequentially in two phases. These phases are separated in time, but connected in the content delivered and capabilities developed and assessed, with CENV8001 providing foundational knowledge and skills to be applied in CENV8002. The courses are both theoretical and applied in nature, providing opportunities for students to critically engage with content, and apply knowledge and skills learnt to examine case studies and real world challenges. The courses are delivered through face-to-face, synchronous and asynchronous online learning, as well as self-directed learning.

## Course Information

All students will be enrolled in the following courses:

Course No	Course Name	Credits	Level	Pre-requisites
CENV8001	Commercial application and feasibility of IoT solutions in Connected Environments	30	8	
CENV8002*	Technology management and innovation adoption for IoT solutions in Connected Environments	30	8	CENV8001

\*Note: to continue enrollment in CENV8002, students must successfully meet the requirements for CENV8001.

### **CENV8001 Commercial application and feasibility of IoT solutions in Connected Environments**

This course enables students to develop their knowledge of the multiple dimensions of connected environments, and evaluate how connected environments could help address problems, opportunities and challenges in their professional context. Learning will be supported by practical application and engagement with IoT technology and exploration of case studies to gain insight into technical and business dimensions of IoT systems. Students will also be introduced to data analysis, governance and management, ethics and privacy and sustainability will provide a foundation for further application and learning.

### **CENV8002 Technology management and innovation adoption for IoT solutions in Connected Environments**

This course provides an opportunity for students to build on their knowledge to critically engage with the technical dimensions of connected environments, including devices, data and ethics. Students will apply their knowledge of IoT technology and connected environments through the design of a system to be implemented and tested within the context of a given challenge.

### **Intellectual Property and Authorship**

All intellectual property students bring to the programme, and all projects developed through the programme remains the property of the student, their employer, or other third parties, if relevant. If students are enrolling in this programme as part of professional development or their employment, we highly recommend students speak to their employer about intellectual property. The Mind Lab [Code of Conduct](#), which includes academic and professional integrity applies to all staff and students. If students have any questions or need support, please contact [info@techfutureslab.com](mailto:info@techfutureslab.com).

# Programme Calendar

## August Intake 2021

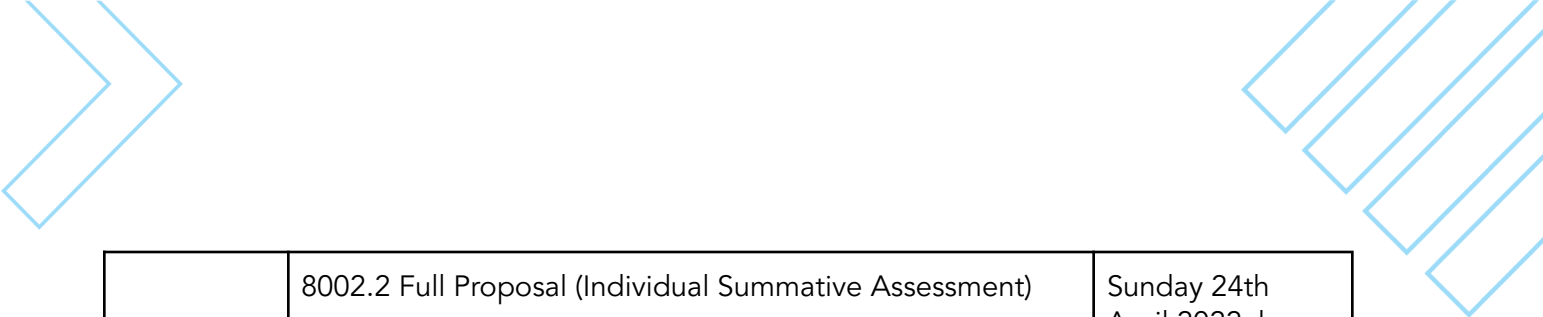
2 hour Live online sessions Wednesday 4-6pm All weeks, except when there is a full day workshop.	6 x Full day face to face workshops (Wednesday see specific dates below)	1-2 days of self-directed learning each week.  Note: much of this will be applied learning in your chosen environment, as the learning is hands-on. There will be some additional preparation and collaboration work required outside of this too.	Weekly Office Hour (optional)
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Week 1	2 hour online	11 August 2021
Week 2	Full day at Tech Futures Lab	18 August 2021
Week 3 - 6	2 hour online + 1 hour office hour	25 August 2021 1 September 2021 8 September 2021 15 September 2021
Week 7	Full day at Tech Futures Lab	22 September 2021
Week 8 - 12	2 hour online + 1 hour office hour	29 September 2021 6 October 2021 13 October 2021 20 October 2021 27 October 2021
Week 13	Full day at Tech Futures Lab	3 November 2021
Week 14-16	2 hour online + 1 hour office hour	10 November 2021 17 November 2021 24 November 2021
Week 17	STUDY Week	1 December 2021
Week 18	STUDY Week	8 December 2021

Week 19 & 21	2 hour online + 1 hour office hour	15 December 2021 12 January 2022 19 January 2022
Week 22	Full Day at Tech Futures Lab	26 January 2022
Week 23-25	2 hour online + 1 hour office hour	2 February 2022 9 February 2022 16 February 2022
Week 26	Full day at Tech Futures Lab	23 February 2022
Week 27 - 30	2 hour online + 1 hour office hour	2 March 2022 9 March 2022 16 March 2022 23 March 2022
Week 31	Full day	30 March 2022
Week 32 - 34	2 hour online + 1 hour office hour	6 April 2022 13 April 2022 20 April 2022

### August Intake 2021 Assessment Dates

Course	Assessment	Due Date*
CENV8001	8001.1 IoT Technical Challenge I (Group Formative Assessment)  Presentation materials and individual reflection due Friday 24th September, 2022 (to submit into portal by 11:59pm)	Presentations on 22nd September 2021 (during workshop)
	8001.2 Defining the Opportunity (Individual Formative Assessment)	Sunday 24th October 2021, by 11:59pm
	8001.3 Initial Proposal (Individual Summative Assessment)	Sunday 28th November 2021
CENV8002	8002.1 IoT Technical Challenge II (Group Summative Assessment)  Presentation materials and accompanying report, slides or video due Friday 25th February, 2022 (to submit into portal by 11:59pm)	Presentations on 23rd February 2022 (during workshop)



	8002.2 Full Proposal (Individual Summative Assessment)	Sunday 24th April 2022, by 11:59pm
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\*Note: Assessment due dates are subject to change up until the start date of the course.

### **Resources Required for Study**

As this programme has blended delivery, students will need to have access to a device and internet so they are able to access online materials and communication tools throughout the programme. All technical equipment required for you to complete practical elements of the course will be provided through Tech Futures Lab and development kits provided by Spark. Staff can provide advice if students would like to explore additional equipment.

# Assessment

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## **Assessment Strategy**

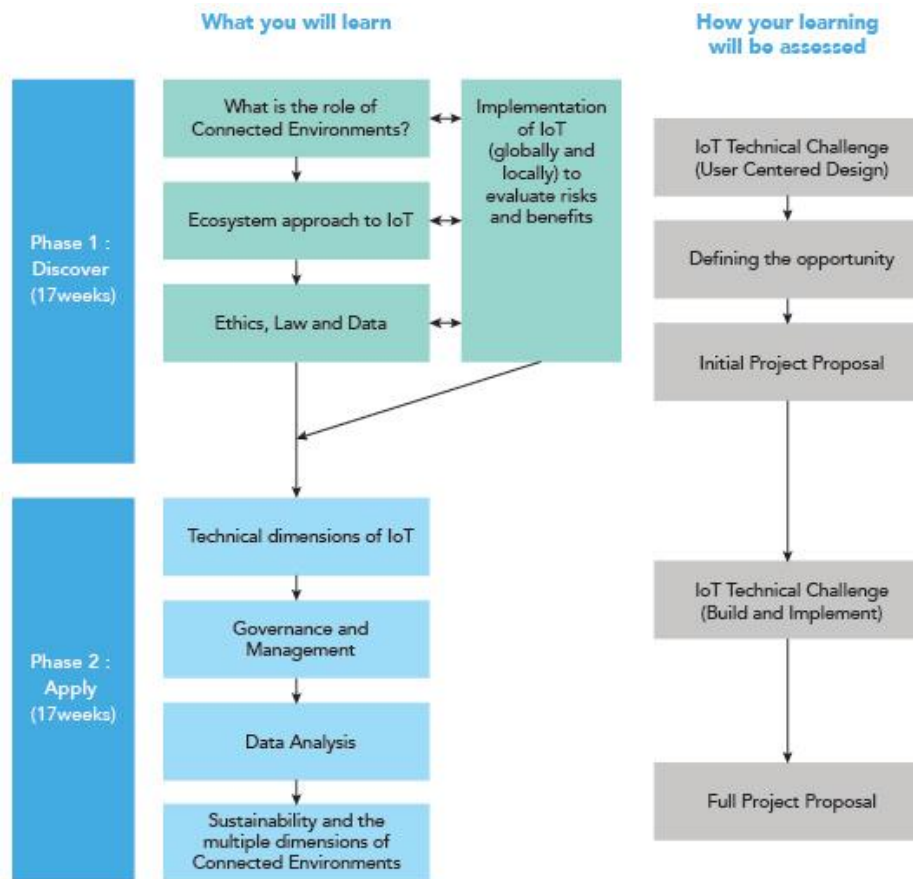
Assessments in this Programme have been designed to support the learning process. Students on the Programme are assessed through both formative and summative assessments.

Formative assessments are designed to provide students feedback from their peers and staff (with no credits attached), while summative assessments are the academic assessments of the Programme which credits are awarded against. Assessments should be thought of as learning tools, where students present and receive feedback on their work in order to improve it.

There are two formative and three summative assessments across the *PGC-CE*, with the formative assessments providing the foundations (knowledge and capabilities) required for successful completion of the summative assessments. Assessments also involve both individual and collaborative group tasks, reflecting the importance of collaboration to understand complex systems which are measured and monitored by IoT systems within connected environments. Technical challenge assignments will be completed in groups, and all other assessments will be completed individually, with collaborative peer groups formed to support collaboration. The assessments are designed to allow students to explore current real world challenges and enhance their personal and professional capabilities that are required to effectively build IoT systems and critically reflect on the multiple dimensions of connected environments.

***Programme Overview: What you will learn and how your learning will be assessed***





Further detail on assessments can be provided if requested. Please contact [info@techfutureslab.com](mailto:info@techfutureslab.com).

### Assessment Outcomes

All assessments in the Programme are measured against a competency-based format. Final outcomes against all assessments, and therefore courses, that students can receive are a Not Yet Competent or a Competent grade. All assessment outcomes are determined by an Assessment and Moderation Panel.

### Te Reo Māori and New Zealand Sign Language

All students are offered the opportunity to submit any assessment in the official languages of New Zealand: New Zealand English dialect, te reo Māori, and New Zealand Sign Language. We ask students to indicate to the Programme Lead when starting the Programme if they intend to submit assessments in Te Reo Māori or New Zealand Sign Language, to ensure there is available resourcing to support their learning.

### **Special Assessment Circumstance (SAC)**

If an unforeseen circumstance impairs the ability of a student from doing well on an assessment (including submitting assessment on time and/or giving a presentation), students are able to apply for a Special Assessment Circumstance with relevant evidence within 7 days of the assessment item due date.

## **Tech Futures Lab Staff**

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Please visit [www.techfutureslab.com](http://www.techfutureslab.com) for more information on Our Team, or contact [info@techfutureslab.com](mailto:info@techfutureslab.com).

## **Student Support and Wellbeing**

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The Mind Lab is committed to creating an inclusive learning environment and to working alongside all students to support them through their studies. This support includes educational and learning support, as well as different types of non-educational support. All of our student support service teams work closely with each other and with the academic programme teams, to provide a friendly point of contact in person, online or on the phone to help students navigate their learning journey.

### **Disability Services**

*The Mind Lab* is committed to providing a range of resources and strategies to help students who have provided information and verification of impairment. Potential services available to students with impairments may include assistance with note-taking, assistance with academic study due to learning impairments such as dyslexia, sign language interpretation, and so on. Students are encouraged to contact us to privately discuss any impairment-related requirements and establish what would be most beneficial in the context of the programme requirements and delivery model, so that students can be effectively supported throughout the programme.



## **Health & Wellbeing**

The Mind Lab students have access to a range of health and wellbeing services via [Homecare Medical](#), who run digital telehealth services, offering health, mental health and addictions support across digital channels. Referrals to other agencies are available for more personal/one-on-one advice and support.

## **Maori & Pacific Support**

*The Mind Lab* is a multicultural organisation that prioritises opportunities for promoting Māori and Pacific student success in all our programmes. Support for Māori and Pacific students include academic support, cultural support, te reo Māori support, pastoral guidance and financial support in the form of scholarships and discounts.

## **Variations on Enrolment**

If students encounter circumstances or challenges which are impacting their ability to continue with a programme or course, they should contact the Programme Lead in the first instance to discuss what options for support are available. It may be possible to suspend an enrolment for a period of time, or for students to withdraw from a course and re-enrol at a later date. Terms and conditions for variations to enrolment are outlined during the enrolments process.

# Important Student Information

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## Postgraduate Certificate in Connected Environments Programme Regulations

The programme regulations can be accessed [here](#).

Below are some key policies and procedures relevant to all programmes of study at The Mind Lab.

### The Mind Lab Code of Conduct

[The Mind Lab Code of Conduct](#) is designed to promote the upholding of professional standards and academic integrity. It covers the personal conduct of all staff, students and contractors.

### The Mind Lab Privacy Policy

[The Mind Lab Privacy Policy](#) provides details of how student and staff privacy will be maintained.

### The Mind Lab Student Complaints and Appeals Policy

The Mind Lab takes all student concerns seriously and should any misconduct be identified, the processes outlined in the Student Complaints and Appeals Policy and Procedure, and Student Disciplinary Policy (both linked below) will be followed.

[The Mind Lab Student Complaints and Appeals Policy](#) outlines the procedures to be followed if an applicant or student makes a formal complaint, or makes an appeal against *The Mind Lab's* decision outcome.

Complaints and appeals are submitted in writing, with evidence to [academicmanagement@themindlab.com](mailto:academicmanagement@themindlab.com). An appropriate investigator is assigned by the The Mind Lab Academic Team to review the complaint or appeal and conduct an investigation and identify a resolution. All groups involved in the investigation will be kept up to date throughout. Full details of the process can be found in TML Student Complaints and Appeals Policy and Procedures.

In the instance that a complaint is not resolved to your satisfaction by The Mind Lab, you can [raise your concern](#) in writing with the New Zealand Qualifications Authority (NZQA).

## **The Mind Lab Student Disciplinary Policy**

[\*The Mind Lab Student Disciplinary Policy\*](#) outlines student disciplinary procedures which may be followed if disciplinary action is required. Possible consequences, if disciplinary action is required after an investigation into misconduct is undertaken, are outlined in this policy.

## **The Mind Lab Admission, Enrolment, Exclusion and Withdrawal Policy and Procedures**

[\*The Mind Lab Admission, Enrolment, Exclusion and Withdrawal Policy and Procedures\*](#) provides a framework and a set of principles relating to admission, enrolment, variation of enrolment, exclusion and withdrawal of students within academic provision offered at The Mind Lab.

## **About *The Mind Lab* Governance and Management**

*The Mind Lab* is governed by an Independent Board, and *The Mind Lab Academic Board* is accountable to *The Mind Lab Board* for ensuring processes exist to facilitate, manage, evaluate, and monitor all aspects of the *Quality Management System* including the *Academic Quality of Programmes*.

All Governing Members of *The Mind Lab* have provided a verified statutory declaration to NZQA and no conflicts of interest have been declared.