



Understanding Software Development Processes and Tools (Micro-credential) Handbook

Valid for 2023 intakes

This student handbook provides applicants with an introduction to Tech Futures Lab (and The Mind Lab) and the *Understanding Software Development Processes and Tools (Micro-credential)*, also referred to as the 'Programme'. It outlines the expectations and requirements of the Programme.

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Tech Futures Lab and The Mind Lab

[The Mind Lab](#) is a specialist education provider dedicated to enhancing contemporary practice, digital fluency, and change in education across New Zealand. Programmes delivered by The Mind Lab are focused on developing innovative practices in teaching and other professions by reflecting on new theoretical and practical frameworks of contemporary education and leadership.

Established in 2016, [Tech Futures Lab](#)¹ 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 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 centre of our philosophy and values for teaching and learning. As an institution, the following organisational kaupapa Māori values drive our practice, as represented in our Teaching and Learning Strategy, Te Ara Kōtihi:

- Manaaki, related to the ongoing support, encouragement, and care of students and staff
- Rangatiratanga, related to leadership, accountability, agency, and authority
- Ako, our way of reciprocal teaching and learning
- Pono, our commitment to working with truth, honesty, integrity and transparency

Programme Information

The *Understanding Software Development Processes and Tools Micro-credential* (15 credits, level 8) is designed to assist those who complete the learning to engage effectively with software development professionals and participate meaningfully in software development/procurement/evaluation/integration processes. Learners will be introduced to fundamental concepts, such as computational thinking, the different types and applications of programming languages, and the data structures they interact with, before being given hands-on learning in areas of the software industry such as analysis, design and development processes, working with software teams, and the appropriate selection and integration of software tools to meet contextual requirements. The focus will be on application in context rather than extensive technical detail.

¹ Tech Futures Lab is part 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.

Delivered across fifteen weeks, the micro-credential will provide opportunities to critically engage with the multiple roles that software development plays in contemporary society, to build a broad skill set to act as the foundation for a grounded understanding of the potentials and challenges of software development in different contexts. Essential to this experience will be developing an awareness of social, cultural, and ethical aspects of the software development processes, for example, the gathering and use of private data and the risks of cultural bias in user interfaces.

Learning Outcomes (Graduate Profile)

As graduates of the *Understanding Software Development Processes and Tools (Micro-credential)* you will be able to:

1. Analyse the business, technology, data, and socio-cultural dimensions of software systems and processes.
2. Critically evaluate the role of software development processes and tools in addressing the changing requirements of organisations.
3. Critically evaluate software development solutions in the context of professional or individual practice.

Programme Structure and Delivery

This 15-week micro-credential includes an average of 10 learning hours per week. The *Understanding Software Development Processes and Tools Micro-credential's* blended delivery approach includes self-directed and directed learning activities supported by weekly 60-minute virtual synchronous class sessions. These sessions will ensure that everyone has understood the core concepts and provide opportunities to explore these further, as well as address any problems or questions. Sessions will be recorded but we do expect attendance every week to enable effective project work and to maximise learning and networking opportunities.

Online synchronous sessions will take place on Tuesdays 4:30-5:30 pm (but please note this is subject to change).

2023 Intake Dates

Intake Name	Start Date	End Date
February 2023	27th February 2023	11th June 2023
July 2023	17th July 2023	29th October 2023

	Theme	Topics	Online Session	Assessment
Week 1	Software development fundamentals	Introduction to Software Development	Content	Working towards assessment 1
Week 2		Software System Fundamentals	Content	
Week 3		Coding and Data	Content	
Week 4	Software development processes	Approaches to Software Development	Content	
Week 5		Analysis and Design	Content	
Week 6		People in Software Development	Content	
Week 7		Testing and Security	Content	
Week 8	Workshop week	Team software process workshops	Workshops	Assessment 1 Due
Week 9	Working with Software Development Tools and Processes	System Setup and Deployment	Content	Working towards assessment 2
Week 10		Working with Web Resources	Content	
Week 11		Client Side Coding	Content	
Week 12		Server Side Coding	Content	
Week 13	Team Projects	Project week 1	Project support	
Week 14		Project week 2	Project support	
Week 15	Assessment Presentations	Presentation week	Team project presentations	Assessment 2 Due

Application for Admission

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

Eligibility

To be eligible to study on the Programme, applicants must meet the admission criteria. The high-level entry criteria as approved by NZQA are as follows:

A Bachelor's degree or an equivalent level qualification OR equivalent professional experience in a relevant field.

Note: Applicants must supply robust evidence to show academic qualifications and/or equivalence to academic qualifications. Evidence of informal and formal learning can include but is not limited to;

- Professional and/or community positions held
- Professional and/or community awards
- Professional and/or community references
- Professional and/or community outputs
- Invitations to represent professions and communities at conferences

Evidence of informal and formal learning will be assessed by the National Academic Director or delegated authority.

Students are unable to gain credits learning towards this 15-credit micro-credential through cross-crediting or accreditation of prior learning.

International Students

This programme is available to study as an international student either via online distance learning or if you currently reside in New Zealand and your visa conditions allow study. To find out more about studying with The Mind Lab as an international student, and for programme fees, [visit our International Students page](#).

Admission

If an applicant is eligible to undertake the programme, and the required documentation has been provided and verified, the applicant will be enrolled as a student on the Programme.

Verification of Enrolment

The Mind Lab admissions team will verify applications as they come through and request further information from applicants if required. Once their enrolment is complete, successful applicants will receive an email confirmation of their enrolment.

Fees

The domestic tuition fee for the Programme is \$450 (including GST) (price valid from 1st June 2022).

The fee for international students (in New Zealand and offshore) is NZD\$1500 (including GST if in New Zealand, excluding GST if offshore).

Unfortunately, students are not eligible to apply for StudyLink Student Loans for this micro-credential.

Scholarships

The Mind Lab and Tech Futures Lab offer a range of scholarships to support people to study and help to minimise barriers to learning.

The following scholarships can be applied for, and cover 75% of the programme fees.

- Tangata Whenua - for learners who identify as Māori
- Pacific Ako - for learners who identify as Pacific
- Taipakeke - for learners who are aged 60 years and over.
- Impact Scholarship - for learners who are positively impacting people, society and/or the planet.

This means that the cost of the *Understanding Software Development Processes and Tools Micro-credential* would be \$112.50.

Scholarships are open to domestic students (both those in NZ and offshore) and can be applied for through the enrolment process. Let us know if you have any questions or would like to discuss scholarship opportunities relevant to you.

Please check the Scholarships page of our website for terms and conditions and further information about scholarships and other funding opportunities.

Early Bird Discount:

There is an Early Bird discount of 10% off the course fees for domestic students who apply 4 weeks before the start date of an intake, and 6 weeks before the start of an intake for international students. The discount will be applied to your invoice automatically through the enrolment process.

Please note: Early Bird Discount and Scholarships cannot both be applied. If you receive a scholarship, the remaining amount payable will not be discounted with the early bird rate.

Withdrawal Scenarios

If you are already enrolled in the Programme and decide to withdraw, there are different [withdrawal scenarios](#) depending on when you withdraw.

On application, candidates must agree to the [Terms and Conditions](#) before we can process an enrolment into the Programme.

Refund Entitlement Dates

Intake	Course Start Date	10% Cut off Date	75% Cut off Date	Course End Date
February 2023	27th February 2023	9th March 2023	16th May 2023	11th June 2023
July 2023	17th July 2023	28th July 2023	8th October 2023	29th October 2023

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 or the local Facilitator in the first instance to discuss what options for support are available. It may be possible to suspend 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 in enrolment are outlined during the enrolment process.

Assessment

Assessment Strategy

Assessments in this Programme have been designed to support the learning process. Students on the Programme are assessed through two summative assessments. The summative assessment is the academic assessment of the Programme which grades are awarded against and contribute to credits for the course. Assessments should be thought of as learning tools, where students present and receive feedback on their work in order to improve it. The assessments on this Programme are completed collaboratively.

The *Understanding Software Development Processes and Tools* micro-credential has two summative assessments across the 15 weeks.

These will provide an opportunity for students to apply their learning to their context, and complete the programme with recognised skill sets in the broader context of software development.

Assessment Schedule

February 2022 Intake

- Assessment 1: Software process workshop Due Sunday 23rd April 2023 (Week 8)
- Assessment 2: Software development project Due Sunday 11th June 2023 (Week 15)

July Intake

- Assessment 1: Software process workshop Due Sunday 9th September 2023 (Week 8)

- Assessment 2: Software development project Due Sunday 29th October 2023 (Week 15)

Due dates for assessments will be confirmed in the programme calendar upon commencement of the programme via Ako Mai (Learning Management System). Further detail on assessments can be provided if requested. Please contact software@techfutureslab.com.

Assessment Outcomes

The Programme provides students with an opportunity to value learning for learning's sake, as well as to achieve a practical outcome which contributes to their own professional development and that of their context.

All assessments in the Programme are measured against a competency-based format. Final outcomes for a summative assessment are a Not Yet Competent or a Competent grade.

To get a Pass grade for the micro-credential overall, students must satisfy all assessment criteria (receiving a Competent grade for both assessments) related to the Learning Outcomes of the courses. Importantly, students will receive feedback targeted to these Learning Outcomes especially through the formative assessment process. A student can also receive an interim outcome of 'Pass with Requirements' for an assessment, which means that there are further requirements to fulfil in order to pass the assessment. These requirements must be met in the stated time frame before continuing.

Resubmission

Students may apply to undertake a resubmission/reassessment for an assessment, for which they have received a Not Yet Competent grade, within seven days of receiving their marked assessment. This application is assessed by the Programme Lead who, guided by the Assessment and Moderation Panel, approves resubmission applications based on the Assessment and Moderation Panel being convinced that the resubmission can be completed in an appropriate time frame, normally not longer than one month. All resubmissions will be carried out within a specified time period as agreed with the Programme Lead.

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 the assessment on time and/or giving a presentation), students are able

to apply for a Special Assessment Circumstance with relevant evidence no more than one week (five working days) after the assessment due date.

Platforms

The Mind Lab uses a variety of platforms to engage and support a blended learning model. Here you will find a brief overview of the most frequently used platforms. More detailed information and instructions will be provided in your Student Guide.

Resources Required for Study

Students will need to have access to appropriate devices and the Internet to be able to enrol in this programme. This is important as they will need to be able to access the online materials and communication tools throughout both the self-directed parts of the programme and the sessions online. In addition, they will be required to install and run software on a desktop or laptop computer as part of the programme.

Ako Mai

Ako Mai is *The Mind Lab's* Learning Management System where students will find their online course content, submit assessments and check grades. Through Ako Mai students can access *The Mind Lab* eLibrary and other important Student Support information. Access to Ako Mai will be granted by the start date of the Programme and students will continue to have access for 1 month after completing or withdrawing from the Programme.

The Mind Lab eLibrary

The Mind Lab eLibrary contains links to a range of online resources for students, including the EBSCO and Proquest online databases and ebook libraries that *The Mind Lab* subscribes to, along with other search engines and open access resources in educational research and scholarship. *The Mind Lab* eLibrary can be accessed via *Ako Mai*.

Zoom

The Mind Lab uses the [Zoom](#) platform to deliver online sessions, which are an integral part of engagement with the Programme. More information about online sessions will be provided at least two weeks prior to the start date of your Programme and will also be available in Ako Mai.

Slack

This is our messaging and sharing platform for all students to communicate, discuss, question and critique over the course of the Programme. On [Slack](#) you will be engaging with your fellow students as well as the Academic Programme Team and Support Teams. It can be used in a browser, as a desktop app, or on your phone or tablet.

Student Support and Wellbeing

The Tech Futures Lab team is committed to creating an inclusive learning environment and to working alongside all students to support them through their studies in this Programme. This support includes education and learning support, as well as different types of non-educational support.

If a student has any impairments that impact their learning, we encourage them to speak to the Programme Lead so that appropriate support systems can be put in place to assist them.

Health & Wellbeing

The Mind Lab students have access to a range of health and wellbeing services via [Whakarongorau Aotearoa](#), 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.

Important Student Information

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

[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](#) provides details of how student and staff privacy will be maintained.

[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. An appropriate investigator is assigned by 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).

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.

Information in this handbook is subject to change and is updated with a version number and valid date, please check the programme page on themindlab.com for the most current version.