



TOI MAI

Workforce
Development
Council

PROGRAMME GUIDANCE
for
New Zealand Certificate in
Applied Software Development
(Level 6) (ref 4663 v1)
September 2022

This guidance has been developed to aid providers developing programmes leading to this qualification. It reflects expectations for the design and delivery of programmes leading to this qualification.

Strategic Purpose

The purpose of this qualification is to provide Aotearoa New Zealand with people with the specialised technical skills and relevant soft skills to gain employment and work in software and/or web development settings. This qualification will prepare graduates for employment in entry-level software developer roles in a range of organisational contexts.

This qualification is designed to accommodate career changers, lifelong learners, and others who do not already have a background in information technology.

Graduates will be able to operate independently as part of a team or under broad supervision in professional environments.

General Conditions for Programme

Programme entry

Programmes can accommodate a range of learner profiles and, with consideration, transferable knowledge and skills from previous work/life experience.

It is recommended that people enrolling in programmes have completed the National Certificate in Educational Achievement (Level 2) with appropriate credits in literacy and numeracy.

Prospective learners should also be assessed against additional criteria to determine if they are sufficiently prepared to enter the programme. Criteria can be based on transferable knowledge and skills from previous work/life experience and may include attitude, work ethic, aptitude and problem-solving skills, level of whānau support, and other relevant experiences. This assessment may take the form of an admissions interview or group interview or other suitable entry assessment

Programme design

Programmes must integrate the assessment of core skills (outcomes 3-6) with technical skills (outcomes 1-2), and take a holistic approach, including technical and professional practices.

Programmes must incorporate a focus on automated testing, tools and techniques.

Programmes must incorporate current and emerging technologies where appropriate; and current development approaches and methodologies including Agile, pair programming, and teamwork. Coding language should be current, suited to wide application, well established in use, and can be used in both server-side and client-side code.

Programmes must include team-based projects in a software development context to appropriate industry coding standards and principles. Projects may be personal or a simulated environment.

Diversity and Inclusion

Programme design must:

- honour ngā kaupapa o te Tiriti o Waitangi (the principles of the Treaty of Waitangi);
- embed approaches to learning/assessment which reflect te ao Māori, perspectives of Pacific communities, and cultural and educational needs of individual ākonga/learners
- encourage greater diversity and inclusion within the professional IT workforce in Aotearoa;
- support/promote learning that exposes ākonga/learners to a range of cultural values and perspectives that include diverse world views.

Professional practice

Professional practice must be an integral part of the programme and delivery. Professional practice includes the core skills of communication, collaboration, interpersonal skills, self-management, problem solving, reflection, feedback and ethical principles and practices.

Practical experience

Practical experience is essential, and it is recommended that learners complete at least 80% of the programme in real or realistic practical settings, such as workplaces, labs or other simulated environments. Realistic practical settings include Agile or team-based environments, challenge-based learning and pair programming.

Online delivery

Online Delivery must include the same contact hours and self-directed time as programmes delivered in-person in the programme. Modern learning technologies must be used to facilitate teaching and peer-learning, especially voice or video call technology. Ideally this is technology which is used by the IT industry to facilitate remote working.

Skills and knowledge to be covered in Graduate Profile Outcomes

Qualification GPO	Skills, knowledge and behaviours to be covered
GPO1 Apply a targeted range of specialised knowledge and skills in software development technologies and iterative development processes to conceptualise, plan, produce, test and deploy full-stack web applications to meet user requirements and industry standards. Credits 30	Learning includes: <ul style="list-style-type: none">- building static sites with HTML / CSS;- building dynamic sites with a modern frontend library;- building and consuming http APIs using databases;- a combination of programming exercises, independent projects and group projects.

<p>GPO2 Apply a targeted range of programming languages, libraries and tools, including automated testing, dependency management, and source control, to establish and manage a codebase. Credits 20</p>	<p>Learning includes:</p> <ul style="list-style-type: none"> - programming fundamentals, - automated testing, - source control and - dependency management.
<p>GPO3 Apply a range of communication, collaborative and interpersonal skills to enhance inclusion, efficiency, effectiveness, equity and quality outcomes in an organisational environment. Credits 10</p>	<p>Learning includes personal and interpersonal skills including</p> <ul style="list-style-type: none"> - leadership, teamwork, - relationship and conflict management, - negotiating, - quality feedback and - ally skills.
<p>GPO4 Apply decision-making techniques, continuous development practices and contemporary project-management methodologies to contribute to complex software development projects. Credits 10</p>	<p>Learning includes:</p> <ul style="list-style-type: none"> - agile methodologies, product management processes and techniques, project planning and critical thinking; - application of professional and ethical practice including sustainability, equity, social and contemporary cultural issues.
<p>GPO5 Reflect on own professional behaviour and practice to adjust to dynamic work environments Credits 5</p>	<p>Learning includes:</p> <ul style="list-style-type: none"> - regular self-reflection on learning techniques and habits; - demonstrating a growth mindset, self-management and wellbeing techniques
<p>GPO6 Apply knowledge of personal and technical presentation, curating an online presence, and interviewing to participate in hiring processes in the IT Industry. Credits 5</p>	<p>Learning includes:</p> <ul style="list-style-type: none"> - the ability to present/public speaking; - compiling personal and project presentations; - establishing a high quality discoverable online presence; - the ability to assess potential employers; - techniques to approach employers for networking/employment opportunities

For further information and questions on this guidance, please contact us at qualifications@toimai.nz.