

GRADUATE PROFILES

What are graduate profiles?

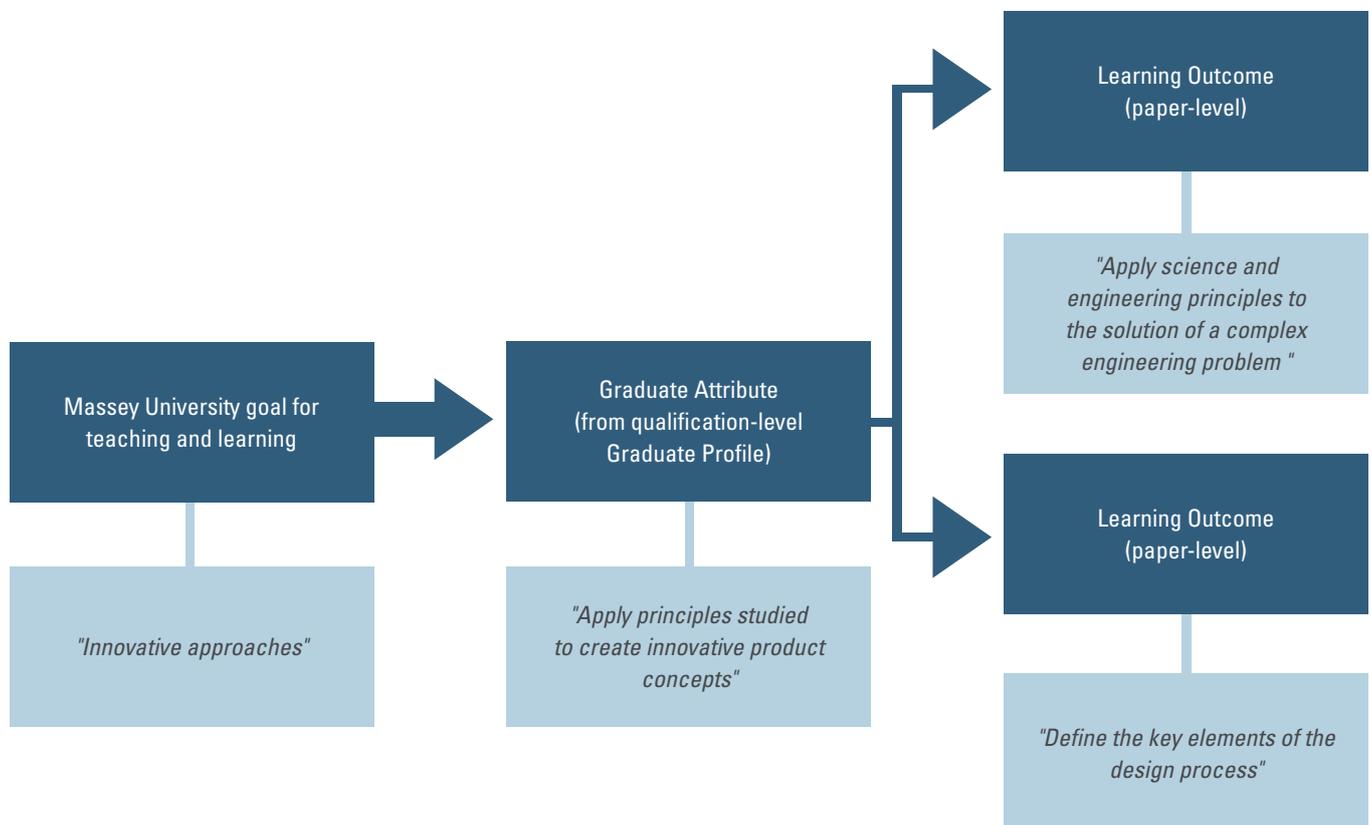
Graduate profiles are descriptions of **attributes**, or knowledge, skills and attitudes, which a university community intends its graduates will develop through their study to equip them for their future education or employment. These descriptions are written at institution and qualification level, and are used to inform curriculum design as well as guide the development of **learning outcomes**, teaching activities and assessment at paper or course level.

How do graduate profiles relate to learning outcomes?

Institutional-level graduate profiles provide the foundation for qualification-level attributes, which in turn provide the foundation for paper-level learning outcomes.

Massey University refers to institutional-level “goals for teaching and learning” (Massey University, 2012c) rather than a formal institutional graduate profile. The following diagram shows how two Massey University paper-level **learning outcomes** derive from one **attribute** in a qualification-level **graduate profile**. This attribute in turn derives from one of the University’s three institutional **goals** for teaching and learning (Massey University, 2012c, p. 1).

The example Graduate Attribute and Learning Outcomes in italics are taken from a Massey University Bachelor of Engineering qualification.



Why are graduate profiles useful?

Graduate profiles have been shown to benefit all stakeholders in university learning (Spronken-Smith et al., 2013). Students can use them to inform their choice of courses and their future planning for study and employment. Staff engaged in creating graduate profiles find the process of identifying overarching statements of education outcomes can foster collegiality, increase efficiency and transform their thinking about teaching to take a more student outcome-oriented approach. Alumni, employers and external and accrediting agencies consulted in the process of creating graduate profiles can contribute to ensuring university learning experiences and qualification content maintain currency and relevance, and are communicated in a format that is better understood outside the university than a list of paper titles.

How do graduate profiles align with institutional goals and individual papers?

Qualification-specific graduate profiles are intended to be aligned with both institutional goals and the learning outcomes of individual papers or courses. At paper level, good teaching practice also demands “constructive alignment” of learning outcomes with teaching activities and assessment (Biggs & Tang, 2007). Constructive alignment is achieved when the learning outcomes of a paper are mirrored in teaching activities and assessment tasks. There should be a clear link between:

- ▼ what students should be able to do as a result of their learning (**learning outcomes**),
- ▼ the **teaching activities** in which the students engage to facilitate the desired learning, and
- ▼ the **assessment tasks** that test the students’ accomplishment of the learning outcomes

Many institutions use grid-style templates to record and evaluate the extent to which alignment is achieved (Terrell & Kirkness, 2011, p. 62). See Appendix 1 for a two-part template designed to provide guidance for academic staff on achieving alignment of graduate profiles with institutional goals and paper-level learning outcomes, as well as constructive alignment of learning outcomes, teaching activities and assessment.

What are the requirements for graduate profiles at Massey University?

At Massey University, graduate profiles are required at qualification and specialisation level, and are included in documentation submitted to the Committee for University Academic Programmes (CUAP) when qualifications and/or specialisations are established. It is expected that, by 2015, all programmes offered by Massey University will have a Graduate Profile that:

- ▼ articulates the educational aims of the qualification and/or specialisation and the capabilities and attributes expected of graduates;
- ▼ informs curriculum design and qualification review, including the alignment of teaching, learning and assessment activities within the papers that contribute to the Profile;
- ▼ is publicly available, via the University’s website and other publications as appropriate, to communicate the intended outcomes of the qualification and/or specialisation to current and potential students and staff, employers, industry, the professions, alumni, and the wider community (Massey University, 2013, p. 10)

It should be noted that a graduate profile at specialisation level does not stand alone. It is complementary to, and makes reference to, the relevant overarching graduate profile at qualification level.

How do I write a graduate profile?

Graduate profiles are written at institutional and qualification level, and should reflect the perspectives of students and staff, employers, industry, the professions, alumni, and the wider community. Given that they are designed to communicate with all key stakeholders, graduate profiles are best written as a collaborative exercise. Such collaboration is particularly important for academic staff when developing new papers where learning outcomes must align with qualification-level graduate profiles, given the potential for the principle of academic freedom to be invoked. Tensions between graduate profiles and academic freedom are best resolved through robust debate at an early stage of qualification planning.

Institutional level

At institutional level a graduate profile may be a succinct statement, a statement followed by a list of attributes, or a set of institutional-level “goals for teaching and learning” (Massey University, 2012c) that serves a similar purpose.

Example Graduate Profiles (institutional level)

A recent study (Spronken-Smith et al., 2013) commended the approach taken by AUT University to writing an institutional graduate profile. In a succinct statement of graduate outcomes, this institution declares it will produce graduates who are:

“distinguished by their professionalism, their commitment to ongoing learning and personal development, their confidence and adaptability, their ability to communicate and cooperate, and their appreciation of the wider contexts in which they live and work.”

(AUT University, 2012, in Spronken-Smith et al., 2013)

The University of Auckland has an institutional graduate profile consisting of a succinct statement followed by a list of graduate attributes in three domains:

A student who has completed an undergraduate degree at The University of Auckland will have acquired an education at an advanced level, including both specialist knowledge and general intellectual and life skills that equip them for employment and citizenship and lay the foundations for a lifetime of continuous learning and personal development.

The University of Auckland expects its graduates to have the following attributes...

(University of Auckland, 2003)

Qualification level

At qualification level, graduate profiles are written as sets of attributes. Massey University expects a collaborative approach:

Academic staff, paper coordinators, and programme teams share responsibility for the design, implementation, and review of graduate profiles with reference to current and future disciplinary and professional requirements. These requirements should be informed by a variety of sources such as:

- ▶ Recent research and scholarship in the profession or discipline(s)
- ▶ Studies of graduate destinations/outcomes and graduate feedback
- ▶ Accreditation requirements of professional bodies where relevant
- ▶ Student evaluation mechanisms
- ▶ Surveys or other information from employers
- ▶ Information from advisory bodies or industry groups (*Draft Graduate Profile Amendment Template AC12/06/353*)

Programme teams are advised to allow adequate time to develop graduate profiles in consultation with key stakeholders, and to pay careful attention to both content and style.

Content

Begin by thinking about what knowledge, skills and attitude someone with this qualification, at this level, should have. Think about these as a holistic set of attributes, perhaps in terms of role descriptions for jobs that someone with this qualification might be expected to perform. The attributes must be contextualised to the discipline, and also:

- ▶ be consistent with institutional **policy**
- ▶ reflect the expected **outcomes** for the qualification type as expressed by CUAP and NZQA
- ▶ address broad **domains** – increasingly these are expected to include literacy and numeracy
- ▶ reflect consultation with **stakeholders**

At Massey University graduate profiles are also required to address the ability of graduates to work with and in Māori and Pasifika contexts. Massey's **policy, domains** and requirements of NZQA, a key **stakeholder**, are outlined in the policy guide, *Massey University Qualifications Framework*:

Graduate Profiles reflect the values and aspirations of the University for graduates who contribute to New Zealand and the world through their **creative** thinking, their **innovative** approaches, and their **connections** with industry, the professions, and their disciplines. Graduates of Massey University benefit from opportunities to problem-solve and apply theory in practice to a variety of real-world learning contexts during their study.

The broad **domains** that would normally be addressed in the Graduate Profile include:

- ▼ Personal capabilities
- ▼ Discipline-specific competencies
- ▼ Professional attributes
- ▼ Ethical and social attributes

In addition, Graduate Profiles are required to be expressed in the following manner for registration on the **New Zealand Qualifications Framework**:

Outcome statement	
Graduate Profile	A succinct statement outlining expected learning outcomes of a qualification capturing what the learner will know, understand and be able to do when they achieve the qualification
Education Pathways	A succinct statement identifying other qualifications that a graduate could enrol into after completing the qualification. Where qualifications are standalone and do not prepare graduates for further study, the statement should make this clear
Employment Pathways	A succinct statement identifying areas in which a graduate may be qualified to work or the contribution they may make to their community.

(Massey University, 2013, pp. 10-11)

Style

While a graduate profile is always presented as a set of attributes, it is most useful to stakeholders when that set is a succinct holistic summary of the expectations of graduates of the qualification. If it is simply an unprocessed collection of learning outcomes assessed in the papers that comprise a qualification, it runs the risk of being atomistic and incoherent.

Graduate attributes and learning outcomes are similar in structure but differ in breadth and specificity. The following table shows how graduate attributes differ from learning outcomes:

	Graduate attribute	Learning outcome
Level	Institution or Qualification	Paper
Purpose	Summarises the expectations of graduates of the institution or qualification	Links directly to assessment
Sample opening phrase	<ul style="list-style-type: none"> ▼ <i>"A graduate of this institution is expected to have:</i> <ul style="list-style-type: none"> ▼ <i>A mastery of...</i> ▼ <i>An understanding of ...</i> ▼ <i>A capacity for..."</i> ▼ <i>"On successful completion of this qualification, graduates should be able to..."</i> 	<i>"On successful completion of this paper, students should be able to..."</i>
Action verb	Broad enough to summarise a range of outcomes in a range of contexts	Specific enough to be unambiguously measurable in a particular context
Example	<i>"Apply principles studied to create innovative product concepts"</i>	<i>"Define the key elements of the design process"</i>

Taxonomies of cognitive, psychomotor and affective skills can provide a useful starting point for writing verbs for graduate attributes and learning outcomes. See Appendix 2 for a table based on these taxonomies showing the relationship of broad-ranging verbs for graduate attributes to specific measurable verbs for learning outcomes.

A writing frame

A graduate profile at qualification level typically begins with a statement that summarises generic attributes, and goes on to list attributes as they apply in a specific context. The following writing frame may be a useful guide to writing graduate profiles at qualification level. It brings together the requirements of Massey University and the features of content and style recommended above. The italicised phrases and attributes are examples sourced from graduate profiles for a Massey University degree (Massey University, 2012a) and its specialisation (Massey University, 2012b).

Graduate Profile (qualification level)

Opening phrase

Begin the profile with a phrase such as:

- ▼ *On successful completion of the [name of qualification], graduates should be able to...*
- ▼ *Graduates of the [name of qualification] are distinguished by their ability to...*
- ▼ *Graduates of the [name of qualification] will possess the following attributes...*
- ▼ *A graduate of [name of major] will be well prepared to...*

Summary of graduate attributes

Complete the opening phrase with a three or four sentence summary of graduate attributes based on those listed under the four required domains, eg:

- ▼ *...integrate creative and technical functions and manage the development of a product through to manufacture, while maintaining an ability to participate fully in the creative design and the engineering development of the product*

Graduate attributes

Descriptive statements of knowledge, skills and attitude addressing four broad domains:

1. **Personal capabilities** – generic personal knowledge and skills contextualised to the discipline, eg:
 - ▼ *Understand, appreciate and work with creative people*
2. **Discipline-specific competencies** – subject-specific skills and knowledge, eg:
 - ▼ *Understand the principles and processes of creative product design*
3. **Professional attributes** – generic professional skills, eg:
 - ▼ *Be able to work within, and lead, an interdisciplinary team of ... specialists in a creative design project to produce a viable product*
4. **Ethical and social attributes** – generic and subject-specific attitudes and values, eg:
 - ▼ *Be able to examine and understand the full breadth of issues surrounding the social, environmental, regulatory and ethical concerns associated with the area*

Education pathways and Employment pathways

As specified in NZQF Guidelines (see above). Useful phrases include:

- ▼ *Graduates will possess the necessary foundations to pursue postgraduate study*
- ▼ *Graduates will gain skills and experience that will prepare them for careers in...*

Appendix 1: Aligning Graduate Profiles

Qualification-specific Graduate Profiles are intended to be aligned with both institutional goals and specific papers or courses. Many institutions use grid-style templates to record and evaluate the extent to which this alignment is achieved. The two-part template on the following page is designed to provide guidance for academic staff on achieving alignment between:

1. *The Massey Model of Teaching and Learning* and qualification-specific Graduate Profiles (Part 1)
2. Graduate Profiles and paper learning outcomes, teaching activities and assessment (Part 2)

In addition, Part 2 is intended to record and evaluate the achievement of constructive alignment of learning outcomes, teaching activities and assessment.

The Massey Model of Teaching and Learning: a statement of institutional goals

In its strategy document *The Road to 2025* Massey University declares its goal for teaching and learning as to:

ensure an exceptional and distinctive learning experience for all students (where graduates are distinguished by their ability to) contribute to the world through creative thought, innovative problem-solving approaches and connectedness with indigenous people, industries, the professions and their subject areas. (Massey University, 2014, p. 15)

The University's *Teaching and Learning Framework* presents the Massey Model of Teaching and Learning (Figure 1). This model:

identifies (Massey's) key points of difference in both orientation and operation. Central to the Model is the goal of engendering a strong culture of creativity, innovation and connectedness of our students, our staff, and our curriculum. Defining elements (Applied, Research-Led, Digital, Distance & Life-Long Learning, International and Comprehensive) are those that the University is committed to strengthening via the development and implementation of appropriate strategies underpinned by relevant quality assurance and enhancement processes. (Massey University, 2012c, p. 1)

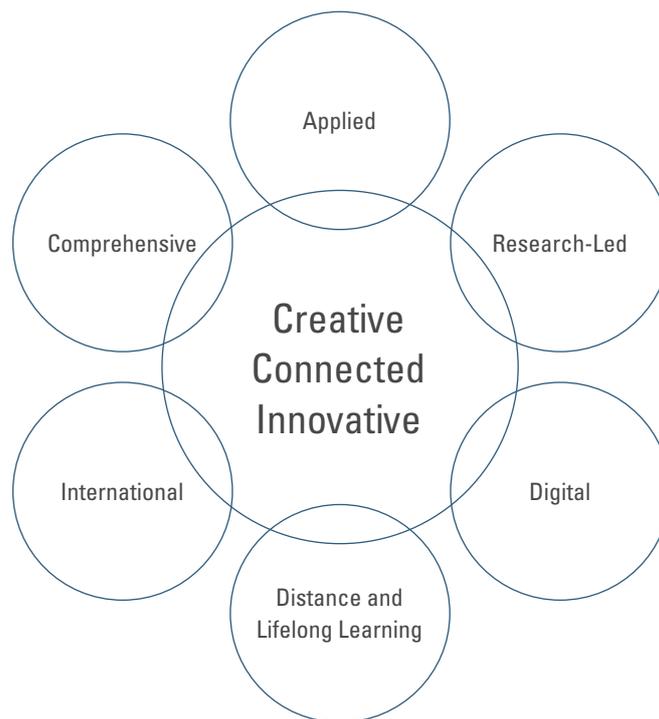


Figure 1: The Massey Model of Teaching & Learning

Aligning Graduate Profiles: using a template

This example of a two-part template could be used for aligning institutional and qualification-level Graduate Profiles with each other. To illustrate its use, it has been filled in with sample Graduate Attributes (in italics). These attributes are based on some used by the College of Business.

Part 1: Mapping Massey model to a qualification/specialisation-specific Graduate Profile

Mapping <i>The Massey Model of Teaching & Learning</i> to qualification/specialisation-specific Graduate Profile (Attributes)																								
The Massey model	Creative (thinking)						Innovative (problem-solving approaches)						Connected (peoples, industries, professions)											
	Applied	Research-Led	Digital	Comprehensive	International	Distance and Lifelong Learning	Applied	Research-Led	Digital	Comprehensive	International	Distance and Lifelong Learning	Applied	Research-Led	Digital	Comprehensive	International	Distance and Lifelong Learning						
Qualification/specialisation -specific Graduate Profile (Attributes)																								
<i>Communicate effectively to achieve shared goals with others with diverse values</i>																								
<i>Transfer theoretical understanding to effective business practice</i>																								
<i>Think creatively and assess opportunities to create value-added goods and services</i>																								

Part 2: Mapping Graduate Profile to Papers, and evaluating Constructive Alignment

Mapping qualification/specialisation -specific Graduate Profile to Papers																		
GP Attributes	Collaborate and communicate effectively to achieve shared goals with others who may have diverse values						Transfer theoretical understanding to effective business practice						Think creatively and recognize and assess opportunities to create value-added goods and services					
	Learning outcomes	Teaching activities	Assessment	Learning outcomes	Teaching activities	Assessment	Learning outcomes	Teaching activities	Assessment	Learning outcomes	Teaching activities	Assessment	Learning outcomes	Teaching activities	Assessment	Learning outcomes	Teaching activities	Assessment
123.456	1, 3, 5	1, 2	1, 3	2, 5	2, 3	2, 3	2, 4	2, 3	2, 3	2, 4	2, 3	4, 5	2, 3	2, 3	6			
123.457	2	3, 4	3	1, 3	1, 2, 3	1, 2, 3	3	1, 2, 3	1, 2, 3	3	4	4	2	2				

Appendix 2: Verbs for writing graduate attributes

Taxonomies of cognitive, psychomotor and affective skills (Anderson & Krathwohl, 2001) can provide a useful starting point for writing verbs for graduate attributes and learning outcomes. The following table based on these taxonomies shows the relationship of broad-ranging verbs for graduate attributes to specific measurable verbs for learning outcomes.

Verbs for graduate attributes	Corresponding verbs for learning outcomes
<i>Knowledge (cognitive skills)</i>	
Know/ Demonstrate knowledge of...	Arrange, define, describe, label, list, memorise, recognise, relate, reproduce, select, state
Understand/ Demonstrate understanding of...	Explain, reiterate, reword, critique, classify, summarise, illustrate, translate, review, report, discuss, re-write, estimate, interpret, theorise, paraphrase, reference
Apply/ Use knowledge of...	Use, apply, discover, manage, execute, solve, produce, implement, construct, change, prepare, conduct, perform, react, respond, role-play
Analyse/ Employ analysis of...	Break down, catalogue, compare, quantify, measure, test, examine, experiment, relate, graph, diagram, plot, extrapolate, value, divide
Evaluate	Review, justify, assess, present a case for, defend, report on, investigate, direct, appraise, argue, project-manage
Create	Develop, plan, build, create, design, organise, revise, formulate, propose, establish, assemble, integrate, re-arrange, modify
<i>Skills (psychomotor or physical skills)</i>	
Perform	Assemble, build, calibrate, construct, dismantle, display, dissect, fasten, fix, grind, heat, manipulate, measure, mend, mix, organise, sketch
Adapt	Solve, adapt, combine, coordinate, revise, integrate, adapt, develop, formulate, modify, master
Originate	Construct, compose, create, design, specify, manage, invent, project-manage, originate
<i>Attitudes (affective skills)</i>	
Demonstrate appreciation for...	Complete, describe, differentiate, explain, follow, form, initiate, invite, join, justify, propose, read, report, select, share, study
Show ability to develop..	Adhere, alter, arrange, combine, compare, complete, defend, explain, generalise, identify, integrate, modify, order, organise, prepare, relate, synthesise
Display consistent ability to...	Act, discriminate, display, influence, listen, modify, perform, practise, propose, qualify, question, revise, serve, solve, use, verify

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