Te Mahau

Kaua e rangiruatia te hāpai o te hoe;
e kore tō tātou waka e ū ki uta

Subject Learning Outcomes:

A tool to support teaching, learning, and assessment

Te Tāhuhu o te Mātauranga
Ministry of Education

Localised MOE support

- Your Local NIFS:
  - [NCEA Implementation Facilitators | NCEA (education.govt.nz)]

Advisors

The New Zealand Graphics & Technology Teachers Association

NOTE: to contact people in this list, please use the Contact Form on this page

DVC Curriculum

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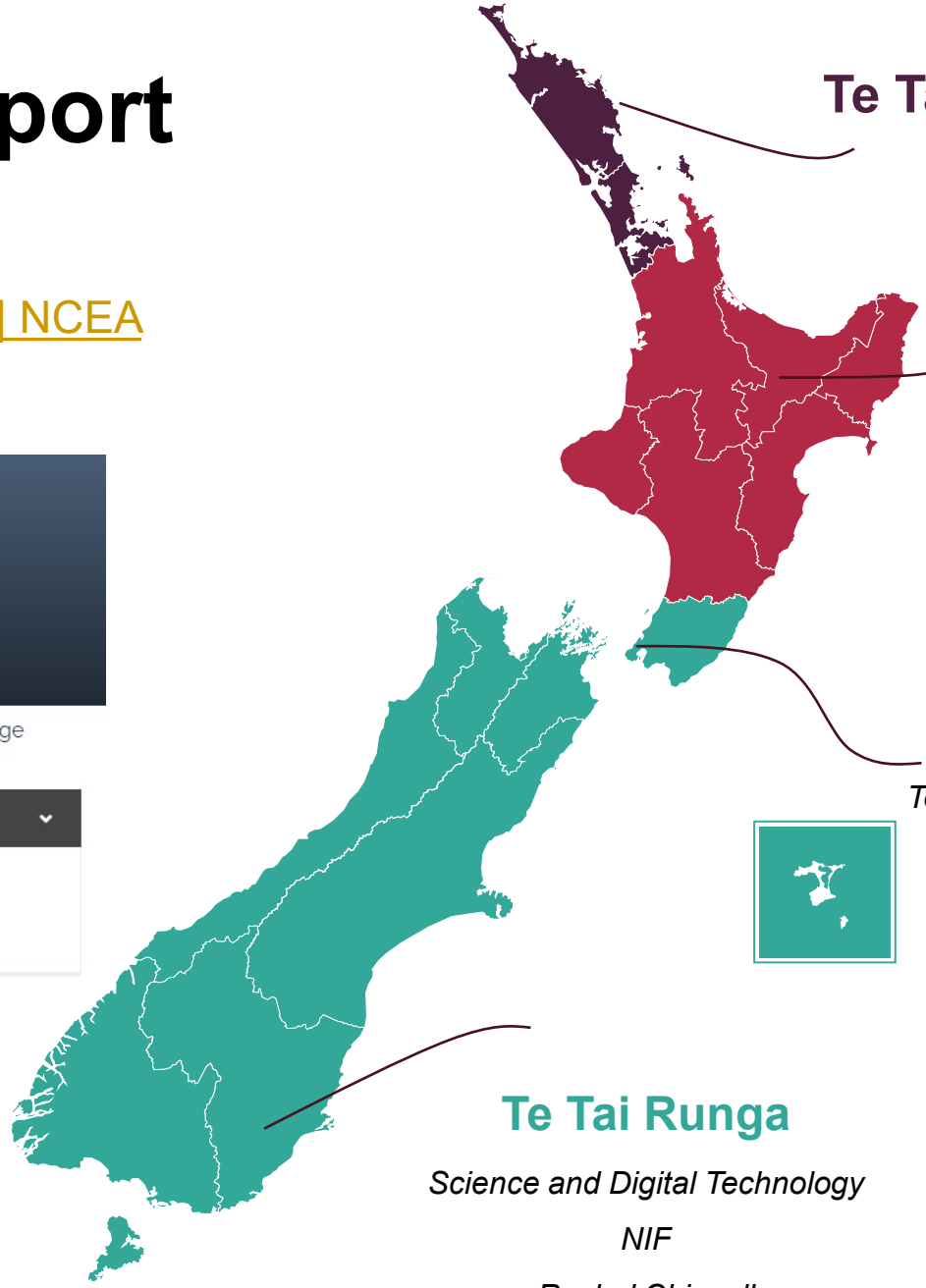

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Te Mahau

Kaupapa o te ata

1. What are the Subject Learning Outcomes and where can I find them?
2. How do Subject Learning Outcomes fit with other NCEA subject materials?
3. How do you use Subject Learning Outcomes?
4. Subject Learning Outcomes for Level 1 Design and Visual Communication

What are Subject Learning Outcomes?

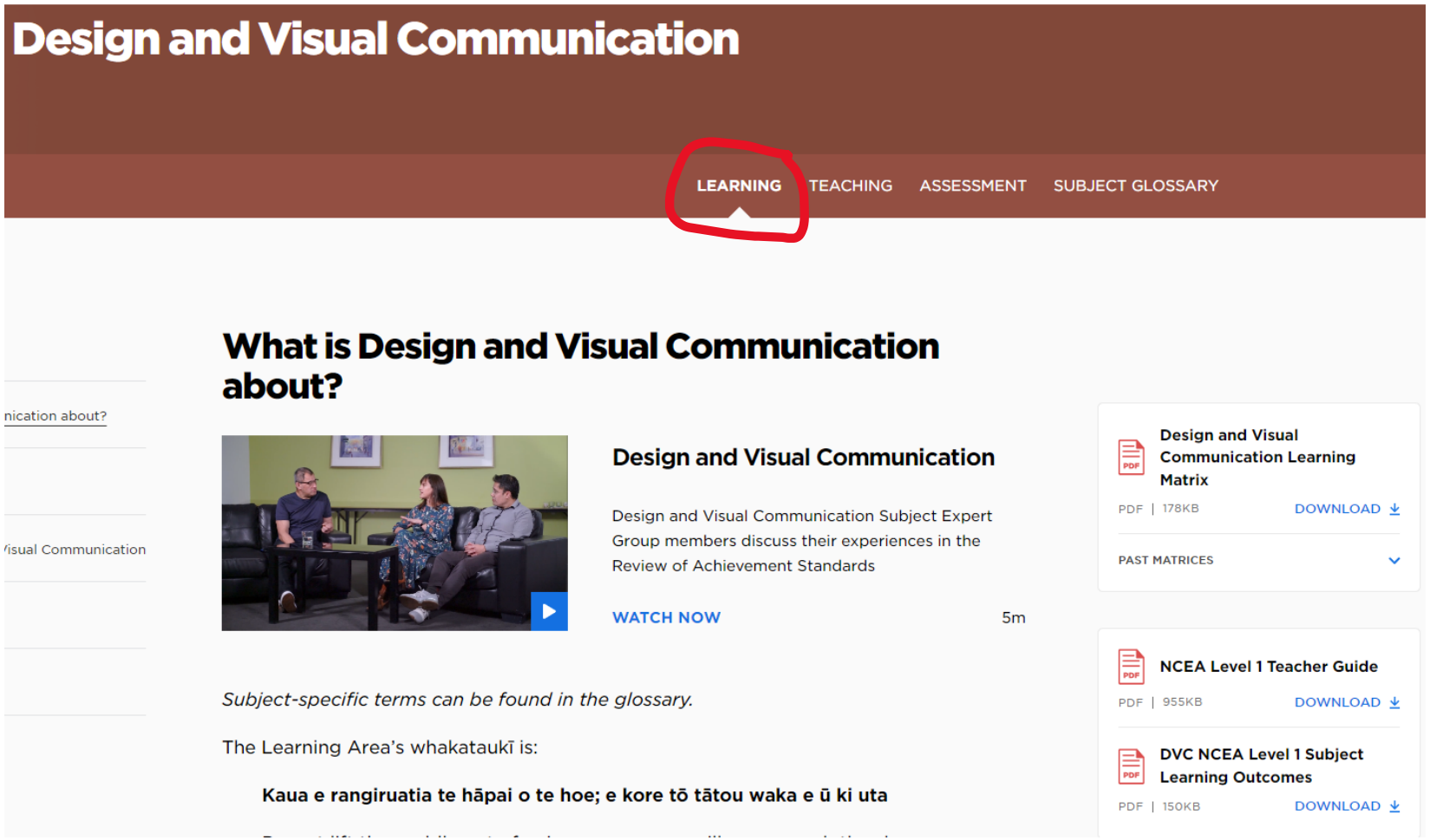
- Subject Learning Outcomes help to identify the learning that underpins the knowledge and skills that students need to be ready for assessment.
  - Students will draw on this learning during assessment.

- Subject Learning Outcomes are used:
  - to check what you have included in your teaching and learning programmes
  - to check for student capabilities in the lead up to assessment

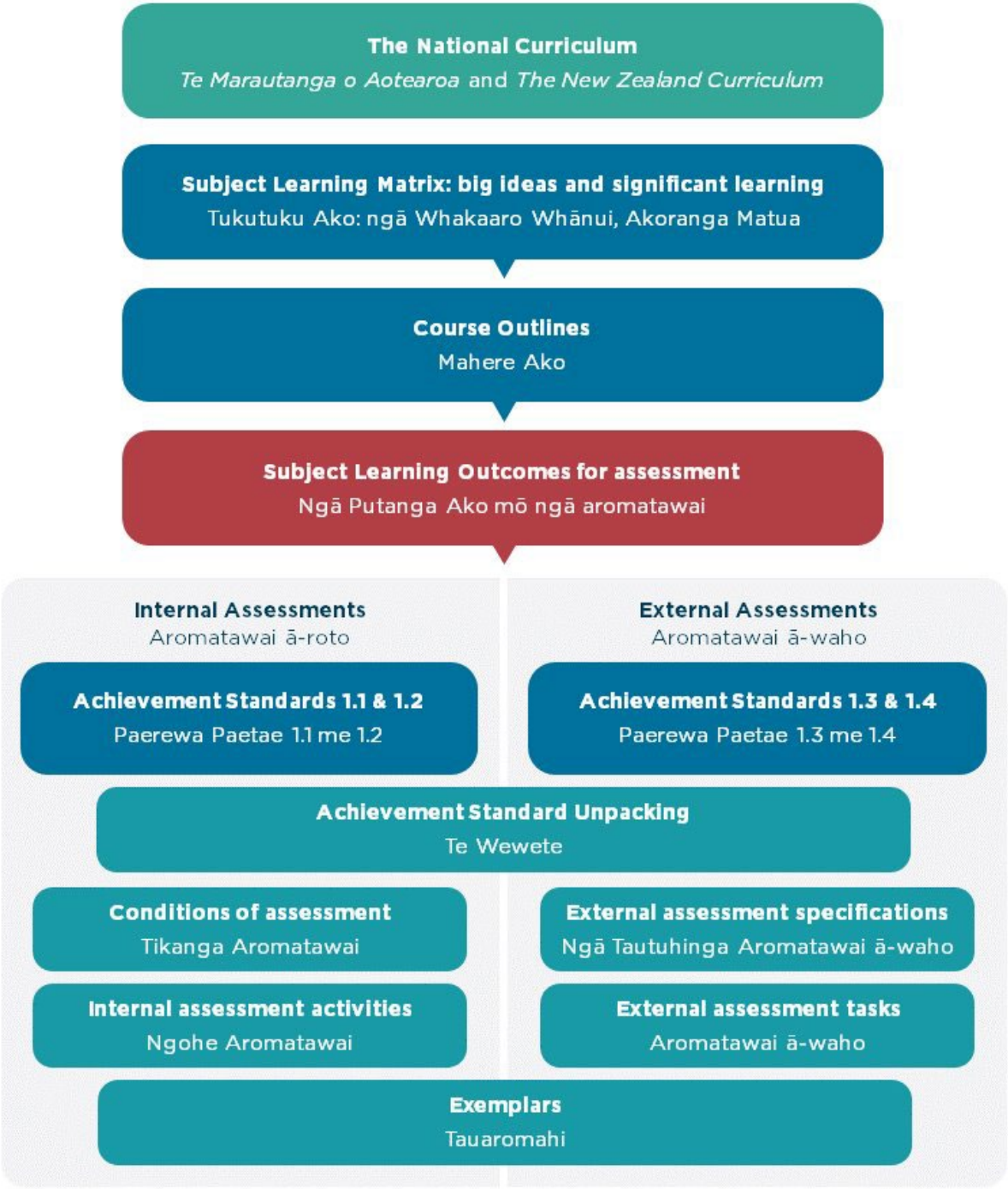
- ***Note:***
  - *Each learning outcome included does not necessarily need the same amount of teaching time.*
  - *Subject Learning Outcomes will look different across subjects due to the nature of the subject*

Where can I find them?

- Subject Learning Outcomes are located where you already access the Learning Matrix for your subject – the Learning tab on the [NCEA.education website]



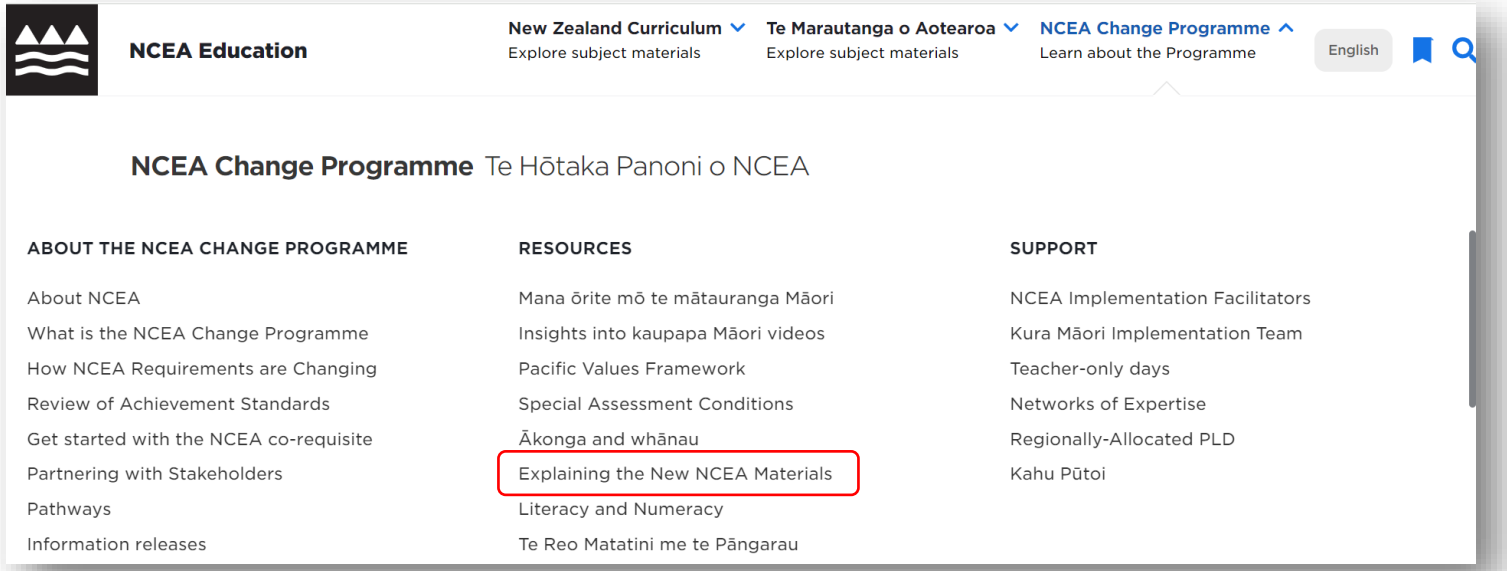
2. How do Subject Learning Outcomes fit with other NCEA subject materials?


The National Curriculum
Te Marautanga o Aotearoa and The New Zealand Curriculum
Subject Learning Matrix: big ideas and significant learning
Tukutuku Ako: ngā Whakaaro Whānui, Akoranga Matua
Course Outlines
Mahere Ako
Subject Learning Outcomes for assessment
Ngā Putanga Ako mō ngā aromatawai
Internal Assessments
Aromatawai ā-roto
External Assessments
Aromatawai ā-waho
Achievement Standards 1.1 & 1.2
Paerewa Paetae 1.1 me 1.2
Achievement Standards 1.3 & 1.4
Paerewa Paetae 1.3 me 1.4
Achievement Standard Unpacking
Te Wewete
Conditions of assessment
Tikanga Aromatawai
External assessment specifications
Ngā Tautuhinga Aromatawai ā-waho
Internal assessment activities
Ngohe Aromatawai
External assessment tasks
Aromatawai ā-waho
Exemplars
Tauaromahi

Explaining the new NCEA materials

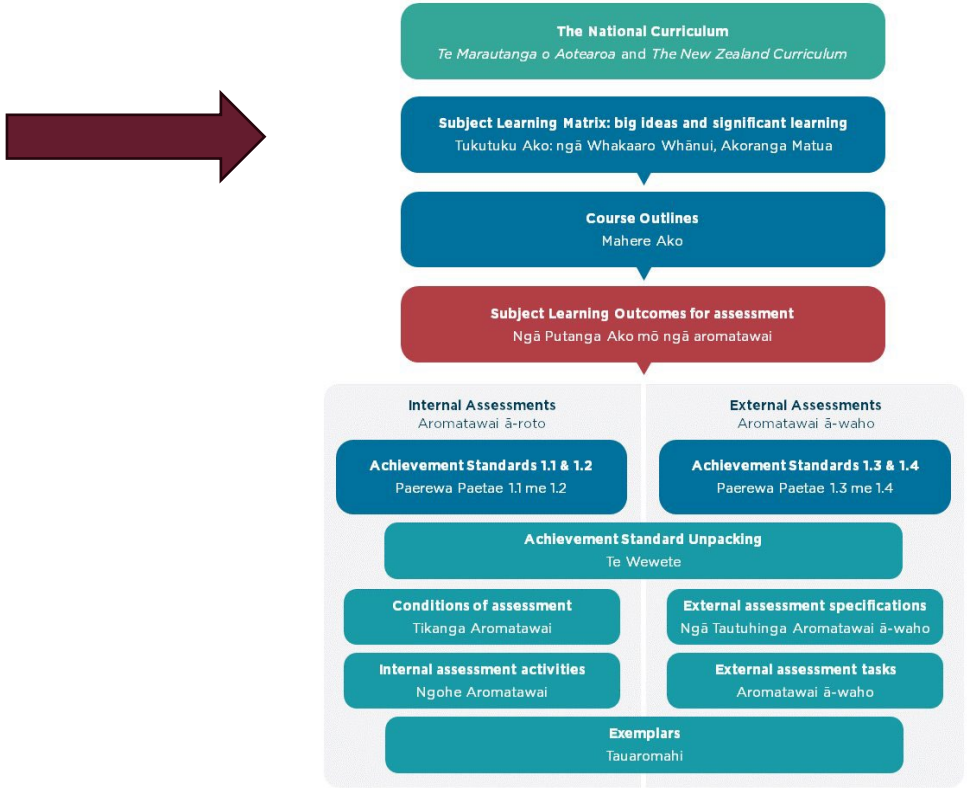
This page on the NCEA.education website explains all of the new NCEA materials, including the Subject Learning Outcomes.

Explaining the New NCEA Materials (NCEA.education)



The Learning Matrix

- A rich and coherent Teaching and Learning programme begins with the **Learning Matrix** and the explanation provided in the Subject Learning tab.

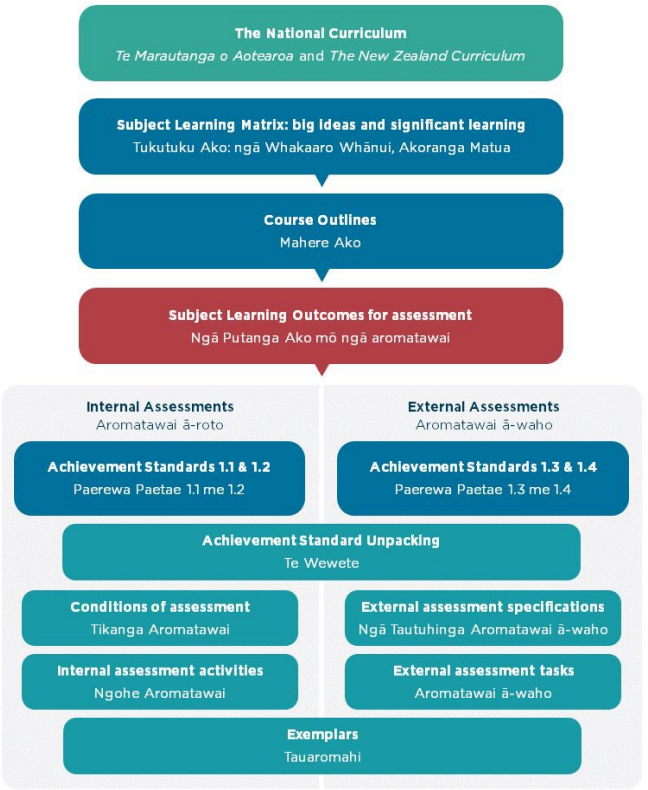


[Design and Visual Communication | NCEA (education.govt.nz)]

Course Outlines

- **Course outlines** are provided under the Teaching tab on NCEA.education.govt.nz. These provide suggestions for how a year's course might be structured.

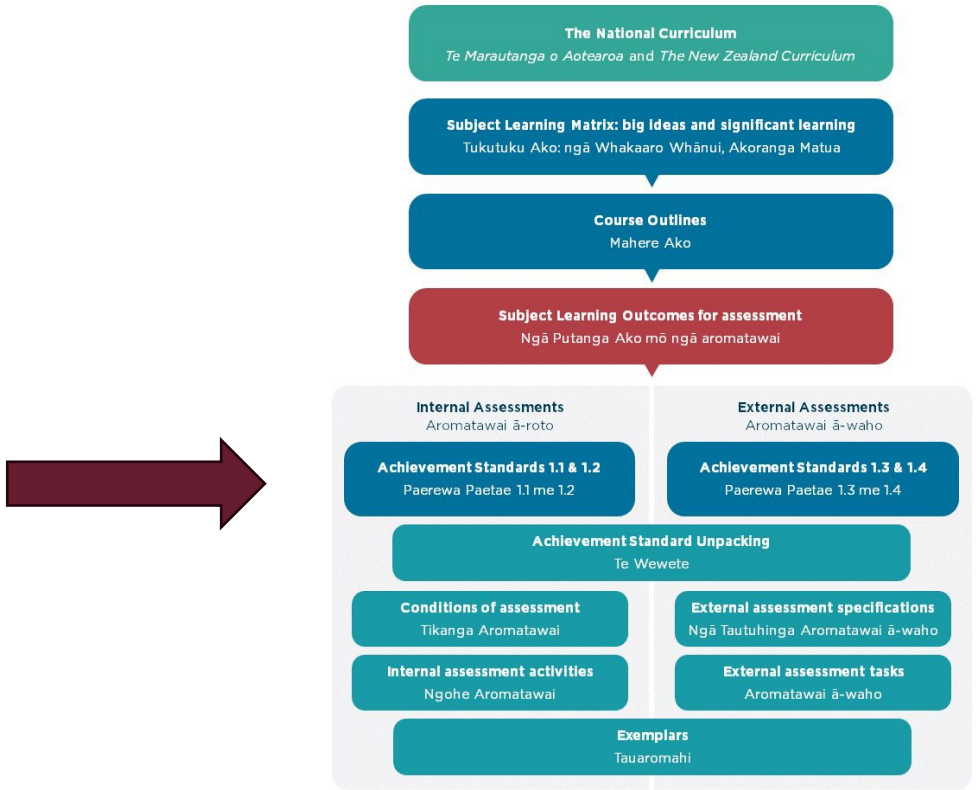
Design and Visual Communication | NCEA (education.govt.nz)



The standards

- The **Assessment Matrix** contains the achievement standards that can be used to assess student learning when students are ready.

[Design and Visual Communication | NCEA (education.govt.nz)]



It is important to note that assessment is a sampling process.
Not everything that is taught will be assessed.

Te Mahau

3. How do you use Subject Learning Outcomes?

How to use the Subject Learning Outcomes

Subject Learning Outcomes can be used as a **checklist:**

After planning

- To check that Teaching and Learning Programmes cover everything ākonga will need to successfully engage with the new Achievement Standards.

Prior to an Assessment Event

- To check that ākonga are ready and able to achieve the standard.

Programme planning:

1

Whakataukī

-What meaning does the whakataukī have for you and your learning area?
-How will you keep it in your line of sight during course development?

2

Big Ideas

-Unpack the BI's
-What do they mean for your subject?

3

Significant Learning

-how can these be grouped to form the foundations for a project?

4

Teaching and Learning Guide

- Unpacks the LM, subject key competencies, potential student pathways, and cross subject links

5

Course Outlines

- *Your own or NCEA templates*
- *Contextualise for your own ākonga through a local curriculum lens*

6

Assessment Activities

-Are these suitable for your programme of learning?

7

Unpacking the standards

- Unpack the detail of the standard

8

Achievement standards

-How will evidence for assessment fall out of the programme learning?
-How will this evidence be captured?
-What digital fluency skills do my ākonga need?

Subject Learning Outcomes:

Programme Planning

After planning, use S.L.O. to check that the programme covers the learning ākonga need to be successful

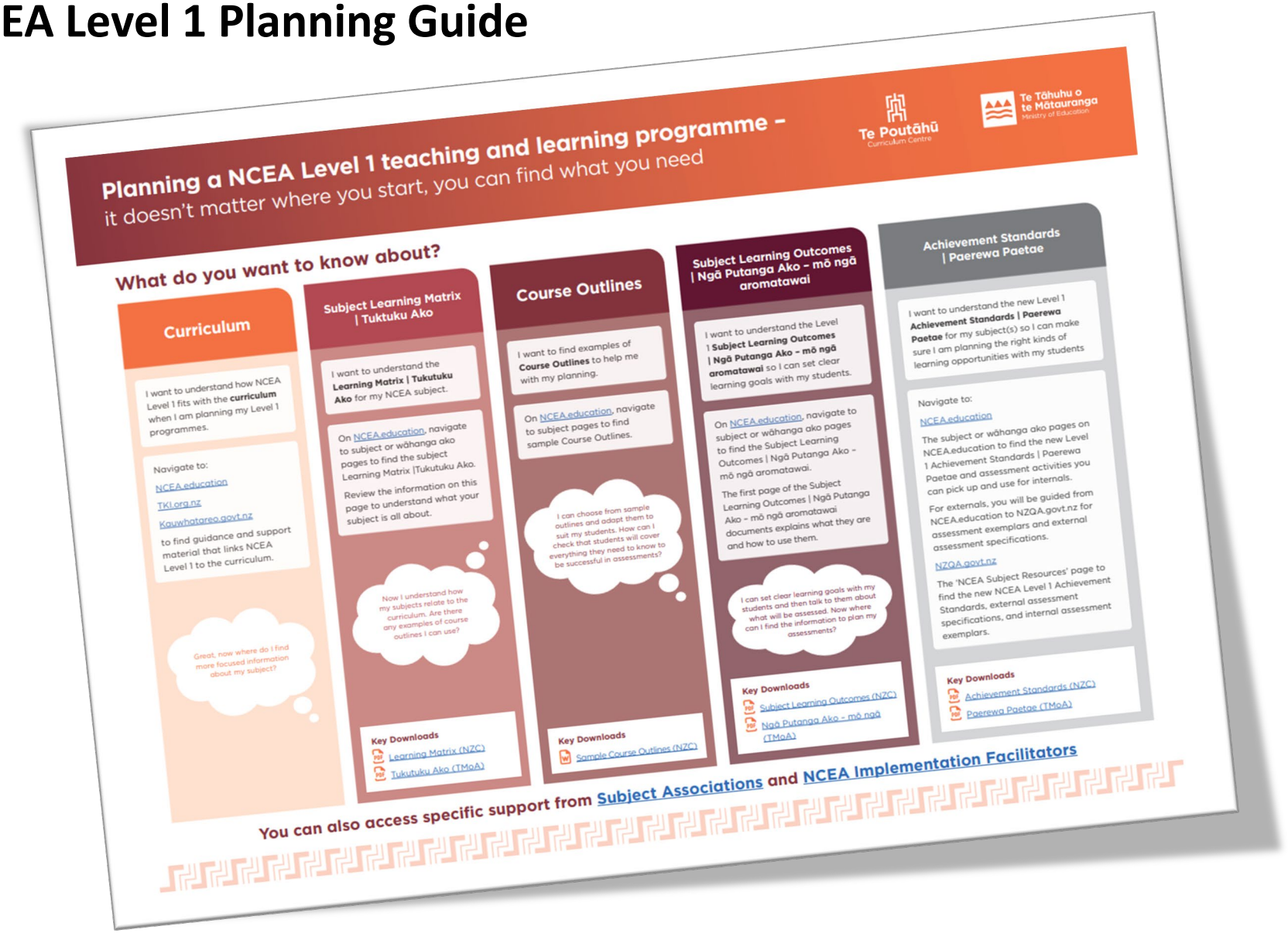
Ākonga engage with the teaching and learning programme.

Ākonga are ready to be assessed

Prior to assessment event, use S.L.O. to check ākonga are able to achieve the standard

Assessment Event

NCEA Level 1 Planning Guide



[NCEA Materials User Map.pdf (ncea-live-3-storagestack-53q-assetstorages3bucket-2o21xte0r81u.s3.amazonaws.com)]

4. Subject Learning Outcomes for Level 1 Design and Visual Communication

Generate product or spatial design ideas using visual communication techniques in response to design influences | NCEA (education.govt.nz)

Design and Visual Communication 1.1

Generate product or spatial design ideas using visual communication techniques in response to design influences

92000 5 CREDITS

Purpose

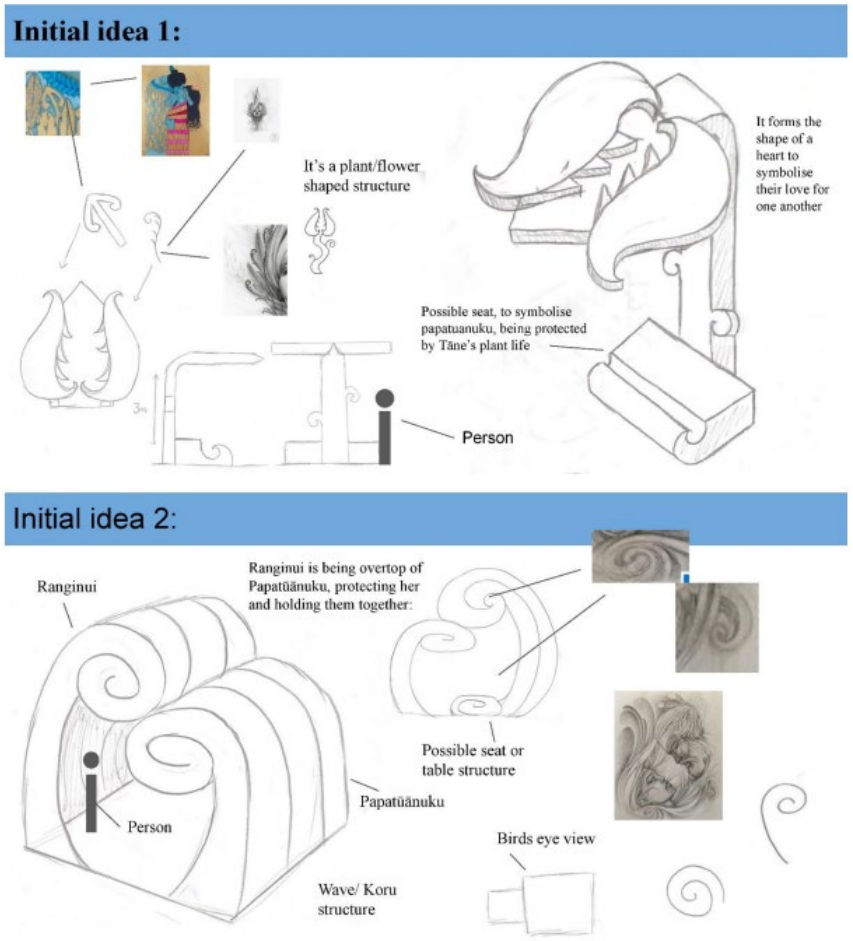
Students will generate product or spatial design ideas using visual communication techniques in response to design influences.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
Generate product or spatial design ideas using visual communication techniques in response to design influences	Develop product or spatial design ideas using visual communication techniques in response to design influences	Extend product or spatial design ideas using visual communication techniques in response to design influences

AS92000 Intent of the Standard

- ākonga will generate product or spatial design ideas using visual communication techniques in response to both te ao Māori and another design influence.
- ākonga will be encouraged to explore and experiment with different design ideas, revealing new possibilities that lead to the generation of their own product or spatial design ideas.
- This will include the process of ideation, where designers research, review, and consider different concepts, aesthetics, approaches.
- Design influences will be used in order to discover new ideas and open up new possibilities from different, sometimes unconventional, sources which then inform their design thinking and design idea generation.

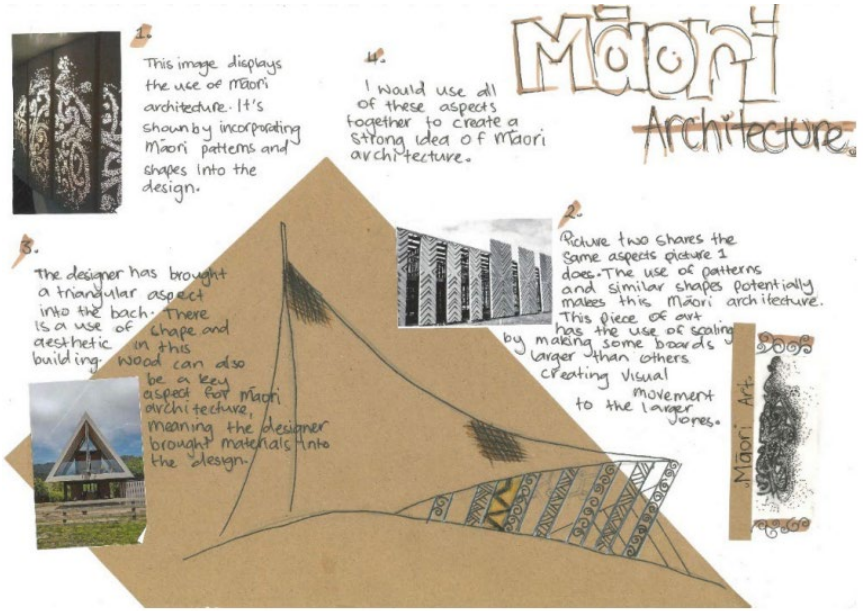


AS 92000 Annotated exemplars :: NZQA

Design and Visual Communication 1.1

Generate product or spatial design ideas using visual communication techniques in response to design influences

92000 5 CREDITS



Achievement Standard 92000 (1.1)	Generate product or spatial design ideas using visual communication techniques in response to design influences	Credits: 5 (Internal)
What is being assessed	Specific Learning Outcome (Students are able to….)	

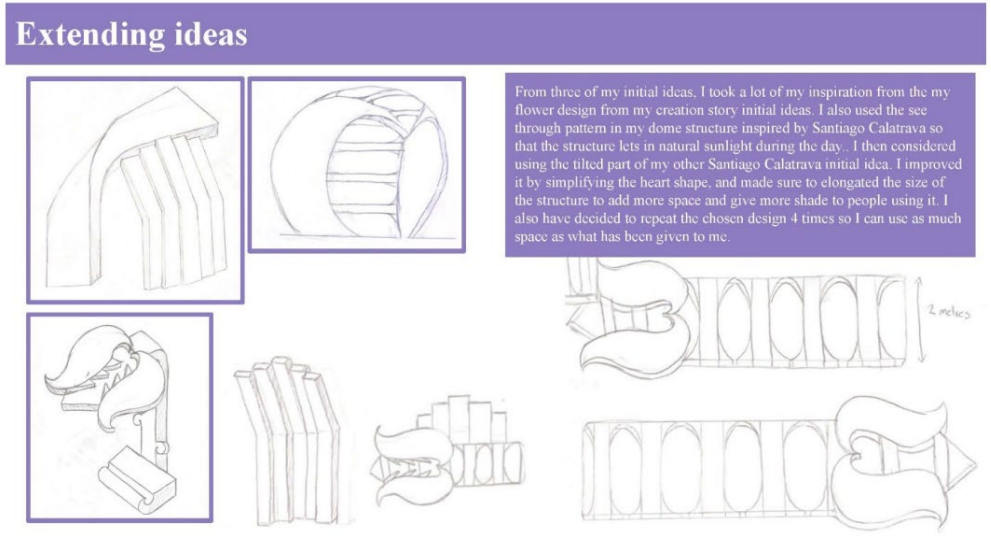
Design characteristics and elements	• recognise and analyse the design characteristics of more than one design influence
	• identify and analyse design elements illustrated through existing design examples and the works of designers. This includes;
	  ○ understanding the defining qualities and characteristics that differentiate spatial design and product design;
	  ○ acknowledging the sources of research material (both images and text)	

Design influences	• analyse and understand a mātauranga Māori design influence in terms of its stories and meanings. This includes; ○ considering tikanga Māori to ensure authentic, respectful, and responsible use of design ideas from te ao Māori • critique how both design influences impact on their own product or spatial design ideas. This includes;	

Design and Visual Communication 1.1

Generate product or spatial design ideas using visual communication techniques in response to design influences

92000 5 CREDITS



	○ understanding that a rationale for a design influence can be expressed through visual decision making and through the response shown through own design ideas
Divergent thinking	• use divergent thinking approaches that explore the design influences through the experimentation of their own product or spatial design possibilities. This includes; ○ understanding there is no single right answer, rather that there are multiple possibilities that can be valued and respected; ○ understanding that creative play is a legitimate part of divergent thinking; ○ beginning to develop an emerging personal perspective reflected in the design ideas they generate and design decisions made
Visual communication	• visually communicate their design thinking; ○ using any drawing or modelling mode individually or in combination as suited for product or spatial design; ○ curating own visual work in terms of recognising what is important for explaining their thinking and decision making

[Use representation techniques to visually communicate own product or spatial design outcome | NCEA (education.govt.nz)]

Design and Visual Communication 1.2

Use representation techniques to visually communicate own product or spatial design outcome

92001 5 CREDITS

Purpose

Students are able to use representation techniques to visually communicate own product or spatial design outcome.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
Use representation techniques to visually communicate own product or spatial design outcome	Use representation techniques to clarify the visual communication of own product or spatial design outcome	Use representation techniques to enhance the visual communication of own product or spatial design outcome

AS 92001 Intent of the Standard

- ākonga will gain understanding of the representation techniques required to visually present a product or spatial design outcome for potential viewers such as users, clients, communities, or other designers.
- They will demonstrate visual communication thinking, focusing on aesthetics, visual appearance, surface qualities, materiality, function, operation and use. In terms of rendering, understanding tonal effects of a light source (shadows and highlights, textures, and material finishes) can contribute to impactful, persuasive, and engaging visual communication. To visually present their design outcomes, ākonga showcase or emphasise the most important aesthetic and functional features.
- This aspect of the design process is about reflecting on how design ideas have become design outcomes. It is about how the learner can effectively communicate the purpose and benefits it has for the people and context it was designed for

DVC-92001-EXP.pdf (nzqa.govt.nz)

Design and Visual Communication 1.2

Use representation techniques to visually communicate own product or spatial design outcome

92001 5 CREDITS

Achievement Standard 92001 (1.2)	Use representation techniques to visually communicate own product or spatial design outcome	Credits: 5 (Internal)

This achievement standard relates to principles and techniques for visual representation where only ONE of the following visual mode options needs to be selected for use:

- *Hand render*
- *Physical model*
- *Digital model*

Learning experiences can focus on one or all these modes, with either the student or their teacher deciding on which mode to use based on individual capability and strengths

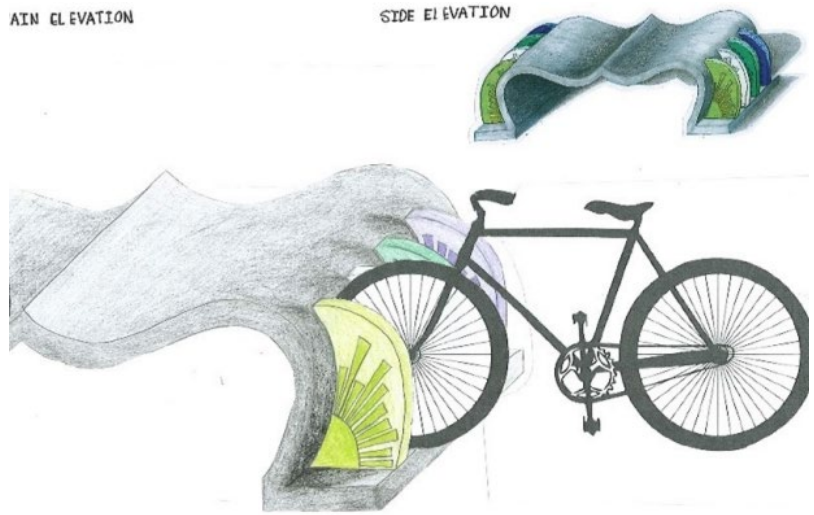
What is being assessed	Specific Learning Outcome (Students are able to….)

Effects of a light source	• For a hand render:
	  ○ apply tonal effects, cast shadows, shadow lines and highlights on drawings to effectively show tonal qualities
	• For a physical model:
	  ○ set up lighting (whether artificial or natural) in a direction that effectively shows tonal qualities when photographing the model
	• For a digital model:
	  ○ set up the light effects and direction in relation to the digital model to effectively show tonal qualities

Design and Visual Communication 1.2

Use representation techniques to visually communicate own product or spatial design outcome

92001 5 CREDITS



Representing materials	• For a hand render:
	  ○ apply colour media and visual textures to represent materials
	• For a physical model:
	  ○ apply modelling materials and finishing techniques to represent materials
	• For a digital model:
	  ○ apply digital rendering techniques to represent materials

Visually communicating a design outcome	• For a hand render:
	  ○ select and use the appropriate views (close ups and viewpoints) that best show the key features of the design outcome
	• For a physical model:
	  ○ select and use the appropriate views for photographing (close ups and viewpoints) that best show the key features of the design outcome
	• For a digital model:
	  ○ select and use the appropriate views (close ups and viewpoints) that best show the key features of the design outcome. (In the case of digital animations, students need to compose and edit their animation using cinematic principles)

[Generate product or spatial design ideas using visual communication techniques in response to design influences | NCEA (education.govt.nz)]

[Use representation techniques to visually communicate own product or spatial design outcome | NCEA (education.govt.nz)]

Assessment Activities

1.1 Activity B

Lake Ōkareka house design

Students will generate and explore a range of ideas for a house on the shores of Lake Ōkareka. The ideas will relate to design influences from te ao Māori and another design influence.

1.1 Activity C

Spatial and product design inspired by design influences

Students will generate design ideas for a product or a spatial design inspired by two design influences including one from te ao Māori.

Assessment Activities

1.2 Activity A

School showcase

Students will use rendering or model-making skills to showcase a product or spatial design idea they have generated.

1.2 Activity B

Lake Ōkareka house presentation

Students will use representation techniques to visually communicate the final design outcome for a house situated on the shores of Lake Ōkareka.

1.2 Activity C

Show me the mahi

Students will produce a rendered illustration or 3D model to showcase their learning and skills in the creation of a product or spatial design.

4. Subject Learning Outcomes for Level 1 Design and Visual Communication

External Achievement Standards

Design and Visual Communication 1.3

Develop product or spatial design ideas informed by the consideration of people

92002 5 CREDITS

Te Mahau

Purpose

Students are able to develop product or spatial design ideas informed by the consideration of people.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
Develop product or spatial design ideas informed by the consideration of people	Refine product or spatial design ideas informed by the consideration of people	Extend product or spatial design ideas informed by the consideration of people

AS92002 Intent of the Standard

- ākonga will be encouraged to clarify and refine product or spatial design ideas through exploring possibilities and making design decisions that consider people in terms of potential purposes and benefits.
- Ākonga can recognise that design, as an act of manaakitanga, is intent on seeking new ways of improving the lives of people. They can bring their own designer voice that connects their personal experiences with the considerations of those they design for in relation to the products or spatial designs they develop.
- It encourages reflection on how designers acknowledge and honour diverse whakapapa and ways of being that they encounter within their work. Ākonga will focus on developing their ideas by recognising the role that design plays in enhancing the lives and experiences of people as potential users and their connection to a place.
- They will need to construct a visual narrative that conveys their design thinking and decision-making, utilising their visual literacy skills.

New Level 1 standards 2024

NZQA will publish exemplars to support implementation of the new Level 1 standards where student samples from the pilots reflect the implemented standard. This will occur between 9 October 2023 and no later than the end of May 2024.

Where student samples reflecting the implemented standard are not available, exemplars will be made available on an ongoing basis after 2024 external moderation and marking has occurred.

Design and Visual Communication exemplars :: NZQA

Design and Visual Communication 1.3

Develop product or spatial design ideas informed by the consideration of people

92002 5 CREDITS

Te Mahau

Achievement Standard 92002 (1.3)	Develop product or spatial design ideas informed by the consideration of people	Credits: 5 (External)
What is being assessed:	Specific Learning Outcome (Students are able to….)	

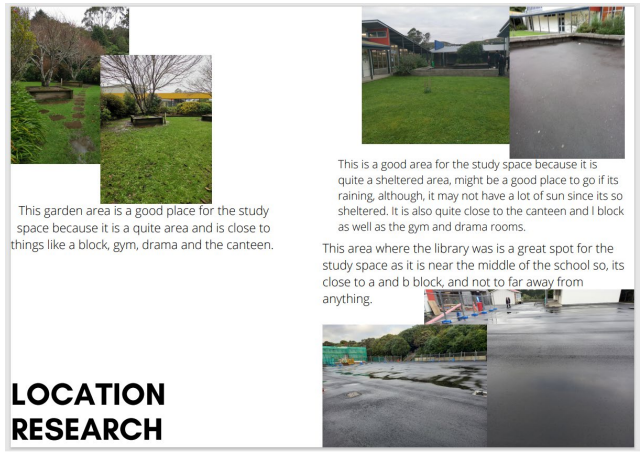
Consideration of people	• critique how the needs of people impact on the developing of their own design ideas. This includes;
	  ○ understanding the needs and experiences of people appropriate to the context of their design ideas
	• apply decision-making that responds to the needs of people in progressing their design ideas. This includes;
	  ○ considering people connected to the context being designed for, to meet their needs or improve their lives	

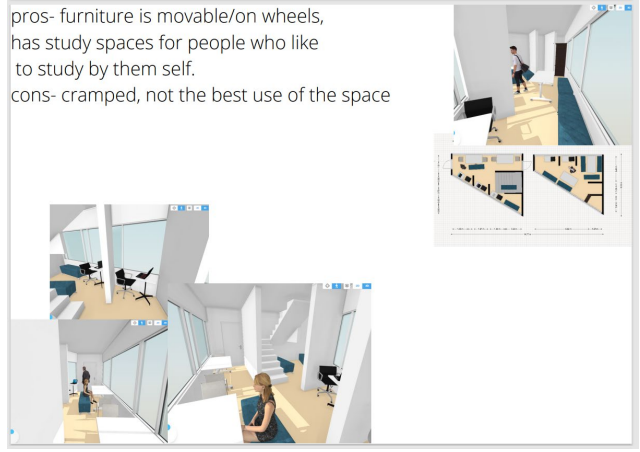
Design practice	• critique how the needs of people impact on the developing of their own design ideas. This includes;
	  ○ considering the possible users of a potential design outcome throughout the design process
	• apply research (specialist knowledge, technical information, user experience), when and as needed. This includes;
	  ○ understanding the defining qualities and characteristics that differentiate spatial design and product design;
	  ○ understanding design elements and principles of function and aesthetics relevant to their design ideas and context;
	  ○ acknowledging the sources of research material (both images and text)
	• generate design possibilities beyond predetermined outcomes. This includes;
	  ○ understanding that design practice is about quality rather than quantity;
	  ○ developing an emerging personal perspective through the design ideas they generate and any design decisions made
	• improve design ideas through refinement that considers possible users of the design. This includes;
	  ○ understanding that design is an iterative process
	  ○ applied features and details that will improve the experience for users of the design
	  ○ fine-tuning aspects of the design to improve the aesthetic and functional qualities of the outcome for people.	

Design and Visual Communication 1.3

Develop product or spatial design ideas informed by the consideration of people

92002 5 CREDITS



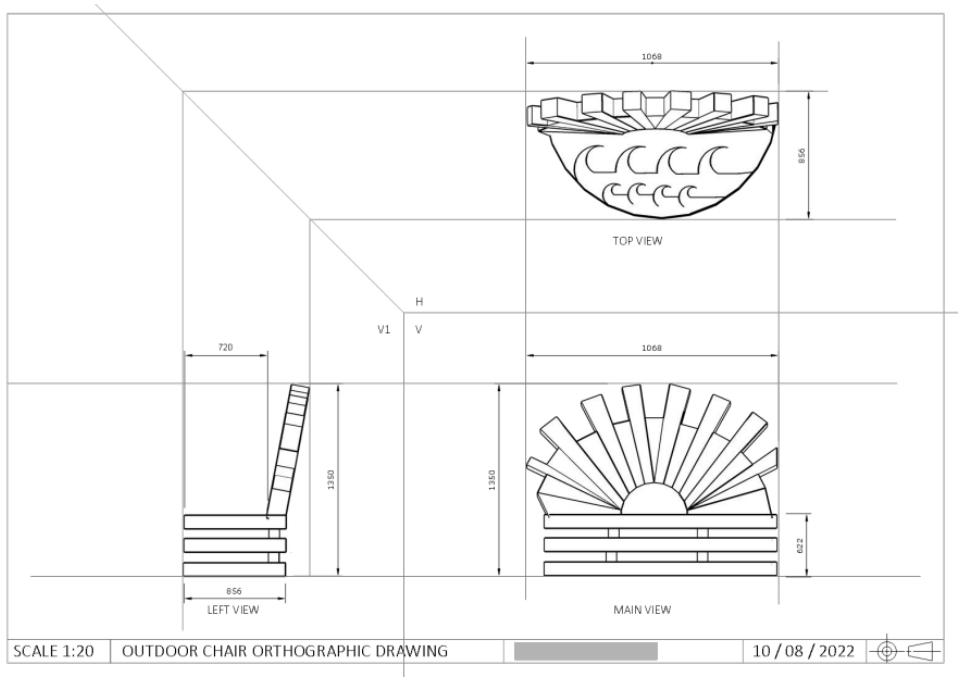


92002-Exemplar-2022-Achievement-Spatial.pdf (nzqa.govt.nz)

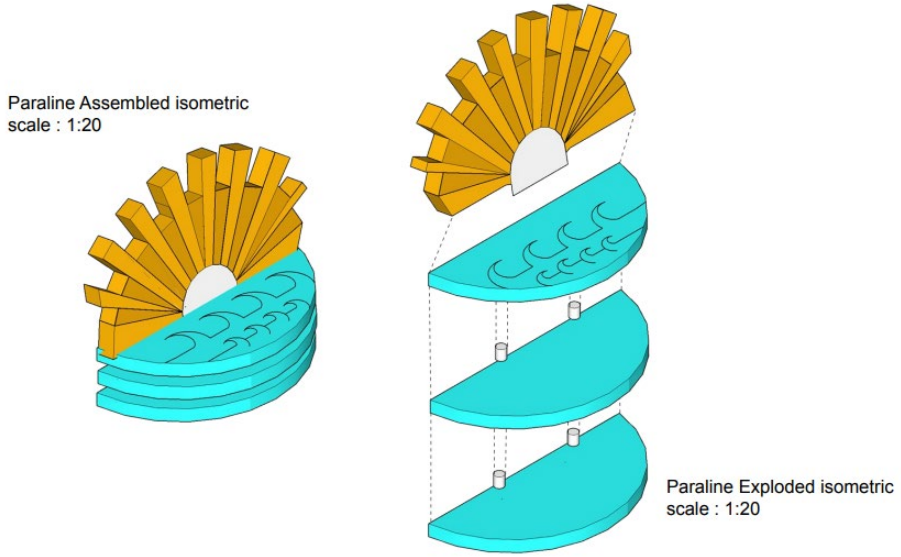
Convergent thinking	• use convergent thinking, exploring design options with purpose, in order to progress and improve a design idea • engage with decision-making that is connected to people, and design knowledge in developing design outcomes
Visual communication	• use visual communication techniques to explain design features • visually communicate their design thinking and the narrative of their practice. This includes; ○ curating own visual work in terms of recognising what is important for explaining their thinking and decision making

AS92003 Intent of the Standard

- The intent of this Achievement Standard is for ākonga to use appropriate instrumental drawing techniques to communicate a design outcome.
- It requires them to develop knowledge and skills in using instrumental drawing conventions and systems.
- It must include orthographic (2D) and paraline (3D) drawings that can be either CAD generated or manually drawn.
- The focus will be on generating instrumental drawings that visually communicate student's own design outcome as accurately as possible using drawing systems and conventions



92003-Exemplar-2022-Achievement-Product.pdf (nzqa.govt.nz)



Design and Visual Communication 1.4

Use instrumental drawing techniques to communicate own product or spatial design outcome

92003 5 CREDITS

Te Mahau

Achievement Standard 92003 (1.4)	Use instrumental drawing techniques to communicate own product or spatial design outcomes	Credits: 5 (External)
What is being assessed:	Specific Learning Outcome (Students are able to….)	
Technical features	• clarify the construction and assembly details of their product design outcome OR internal spatial relationships of their spatial design outcome. This includes; ○ understanding the defining qualities and characteristics that differentiate spatial design and product design	
Instrumental drawing	• use instrumental drawing resources (digital software or manual equipment) for generating a set of coherent instrumental drawings. This includes; ○ applying the principles of alignment for instrumental drawings (orthographic and exploded paraline); ○ applying the principles of sectioning for conveying internal information; ○ applying the principles of scale for representing a design outcome • apply the principles of drawing conventions. This includes; ○ understanding the interrelationship between orthographic drawings (2D) and paraline drawings (3D) for communicating a design outcome;	
	○ understanding that the use of layout, line types and labelling aids visual communication; ○ understanding that an architectural floor plan is a section view where the cutting plane is typically at 1.2 m; ○ understanding that the labelling of views differs between architectural and engineering design fields	
Visually communicating a design outcome	• select appropriate 2D and 3D views that best explain the technical qualities and details of their design outcome • use visual conventions effectively for the clear and easy reading by a viewer (line types, labelling, dimensioning)	

Collecting Evidence for external achievement standards

AS 92002

- Ākonga will curate and submit a portfolio of evidence of 10-15 A3 pages (or equivalent) showcasing their design work.
- Evidence in the portfolio can take a range of visual forms, digital or physical, and may include drawings, annotations, models, and animations.
- Visuals may be produced using CAD or manual drawing methods. Where CAD is used the design details presented must be ākonga-generated. Software libraries or pre-built blocks (for example footing details for building plans) do not constitute ākonga evidence and should not be presented as such

15 x A3 pages	Image files (JPG, JPEG); document files (PDF); video files (MP4), 500MB	30-Oct
5 x A3 pages	Image files (JPG, JPEG); document files (PDF)	30-Oct

AS92003

- Ākonga will curate and submit a portfolio of evidence of 3-5 A3 pages (or equivalent) showcasing their design work where the features of the design outcome have been worked out.
- Evidence in the portfolio can take a range of visual forms, digital or physical, and may include drawings, annotations, models, and animations.
- While labelling and title blocks can be used within a portfolio (written in either English or te reo Māori) to clarify key information, no annotations will be permitted. Ākonga must demonstrate their ability to explain the features and details of the design outcome visually through the instrumental drawings they generate.
- Where CAD is used, the design details presented must be ākonga-generated. Software libraries or pre-built blocks (for example footing details for building plans) do not constitute ākonga evidence and should not be presented as such.

TESAC TECHNOLOGY EDUCATION SUBJECT ASSOCIATION COALITION

TENZ TECHNOLOGY EDUCATION NEW ZEALAND

HETTANZ

DTTA

UC UNIVERSITY OF CANTERBURY Te Whare Wānanga o Waitaha CHRISTCHURCH NEW ZEALAND

Te Mahau

CONFERENCE 2024 | IMPLEMENTING INNOVATION & THINKING

13 - 16 April | Ōtautahi Christchurch | Te Whare Wānanga o Waitaha University of Canterbury

Tukuna a whakaaro auaha kia rere kia whakaumutia ai te ao | Through creativity and innovation we intervene to transform the world

[TESAC 2024 Conference - Implementing Innovation & Thinking (eenz.com)]

[TENZ – Technology Education New Zealand]

[HETTANZ Website]

[New Zealand Graphics & Technology Teachers Association – NZGTTA is a professional subject association set up to promote and support teachers of Graphics and Technology in New Zealand schools.]

[dthm4kaiako.ac.nz]

Feedback on online NCEA workshops (office.com)

Te Mahau

Te Tāhuhu o te Mātauranga
Ministry of Education

temahau.govt.nz education.govt.nz

We **shape** an **education** system that delivers **equitable** and **excellent outcomes**

He mea **tārai** e mātou te **mātauranga** kia **rangatira** ai, kia **mana taurite** ai ōna **huanga**

Te Kāwanatanga o Aotearoa
New Zealand Government

I like the advice that Maia Hetaraka shares with kaiako (she is talking about Mātauranga Māori in the context of Tātaiako, but the principles go right across) - https://www.journal.mai.ac.nz/content/kaupapa-m%C4%81ori-analysis-t%C4%81taiako-considering-m%C4%81ori-education-policy

Dr. Johnson Witehira, Decolonizing Design in Aotearoa, Master of Design Speaker Series, December 5, 2017 on Vimeo

some useful resources can be found at Insights into kaupapa Māori | NCEA (education.govt.nz)
Insights into kaupapa Māori | NCEA

Mana ōrite mō te Mātauranga Māori - Equal status for mātauranga Māori in NCEA | NCEA (education.govt.nz)
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