# **DVC Level 1 Course Outline 2**

# Guide to aid teacher planning only - designed to be printed or viewed in A3, Landscape.

## Purpose

This example Course Outline has been produced to help teachers and schools understand the new NCEA Learning and Assessment matrices and could be used to create a year-long programme of learning. It will give teachers ideas of how the new standards might work to assess the curriculum at a particular level.

## Context: Spatial and Product Design

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| **Significant Learning** | **Learning activities and assessment opportunities**Throughout the year assessment for learning happens often. Evidence may also be collected for summative assessment. | **Duration** Total of 32 weeks |
| Develop skills in visual techniques to generate design ideas eg quick sketches, sketch models, fast computer models.Develop visual communication skills to explore design ideas and thinking in a context. | **TEACHING Spatial design visual techniques*** Sketching exercises (elevations, isometric, 2pt perspective)
* learning SketchUp basics
* Hand sketching over SketchUp mass models.
 | 2 weeks |
| Understand the whakapapa of a design heritage.Explore and consider design tikanga, practices, principles and techniques from Māori, indigenous cultures within design and communication.Develop skills in visual techniques to generate design ideas such as quick sketches, sketch models, fast computer models.Play with ideas that explore possibilities and can lead to the generation of more interesting ideas.Learn how to generate ideas, and design innovative outcomes.Produce unique and individualised design ideas and outcomes. | **PART ONE: ŌKAREKA LAKE HOUSE IDEAS** **Achievement Standard 1.1** *Generate product or spatial design ideas in response to a specific design heritage from te ao Māori and another design heritage* (Internal, 5 Credits)**ACTIVITY: Students will explore ideas for a Lake House for a site on the shores of Lake Ōkareka near Rotorua**STARTING POINT 1: The Ranginui and Papatūānuku creation story. STARTING POINT 2: Choose one of the following architects:* Ludwig Mies van der Rohe
* Glenn Murcutt
* Shigeru Ban
* Rau Hoskins
* Daniel Liebeskind
* Nicola and Lance Herbst
* John Scott
* Belinda George
* Bronwyn Kerr
* Pete Ritchie

FOR EACH STARTING POINT STUDENTS WILL:* show source images for each selected starting point and label characteristics
* use visual techniques to explore ideas from each starting point
* use visual techniques (could be different techniques) to experiment with and extend these ideas towards ideas for a lake house
* may consider combining ideas from each starting point or can extend separately.

Visual techniques that could be used include sketch models, quick SketchUp, 2D and 3D sketches, photography, and overlays. | 5 weeks |
| Develop visual communication skills to explore design ideas and thinking in a context.Understand how to use appropriate visual communication techniques to generate and explore ideas beyond first thoughts. | **PART TWO: ŌKAREKA LAKE HOUSE REFINEMENT****Clarify an idea further to reach a final outcome.*** Select one of your ideas to extend and clarify to create a final idea for the lake house.
* Think about the building’s relationship with the site, the form, materials, and details.
* Consider the people who will be using the holiday home.
* Use: Freehand sketches, site plans, models, photos, and overlays, SketchUp etc.

*This section of work is not assessed but is preparation for the presentation in the next part.* | 3 weeks |
| Use visual communication skills and presentation techniques to communicate a design idea or outcome.Develop skills and apply design knowledge to context.Develop visual skills and techniques to communicate details of design ideas and outcomes. | **PART THREE: ŌKAREKA LAKE HOUSE PRESENTATION****Achievement Standard 1.2***Use representation techniques to communicate a conceptual product or spatial design outcome* (Internal, 5 Credits)**ACTIVITY: Students will select and use representation techniques to present their final Lake House**Use one of the following techniques to communicate your final design in a way that promotes the idea to members of the school community:* Rendered CAD drawing.
* Hand rendered presentation sketch.
* Architectural model.
* Computer animation or flythrough.

Students will:* select a suitable representation technique from above
* research and learn the skills needed to execute the technique
* practise the technique
* execute the final presentation.
 | 5 weeks |
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| Develop visual communication skills to explore design ideas and thinking in a context.Understand how to use appropriate visual communication techniques to generate and explore ideas beyond first thoughts. | **TEACHING Product design visual techniques:*** Isometric sketching exercises.
* Exploded isometric.
* Section views.
* Pull apart an existing design and sketch all the parts.
* Overlays or tracing.
 | 2 weeks |
| Develop skills in visual techniques to generate design ideas, such as quick sketches, sketch models, fast computer models.Engage with people, places, and cultures to develop design ideas and outcomes.Develop visual communication skills to explore design ideas and thinking in a context.Understand how to use appropriate visual communication techniques to generate and explore ideas beyond first thoughts.Develop skills and apply design knowledge to context.Understand the purpose of design is to enhance lives and environments using aspects of kaitiakitanga and hauora.Understand that all ideas have value through critique to make decisions.Develop visual skills and techniques to communicate details of design ideas and outcomes.Show understanding of aspects of function and use. | **WATER BOTTLE DESIGN:** **STARTING THOUGHTS:*** Mountains of plastic waste.
* Many people have no access to safe drinking water.
* When do you drink water?
* Who do you know who likes to drink water on the go?
* Do you want to help anyone to make a healthy choice?

**PERSONAL DESIGN STATEMENT:***(Note: The design statement can relate to a global issue eg plastic waste. Or it could be personal eg I need to take a water bottle to netball practice. Or it could relate to another person eg my little sister needs a water bottle for school.)*Use the thoughts above to create your own design statement for designing a water bottle. Include a specific situation and person or people who the water bottle will be for.**GENERATE IDEAS** Pick one of the phrases below to help you to explore shapes and forms for a water bottle:* *Go with the flow.*
* *Living on the edge.*
* *There’s joy in repetition.*

**DEVELOP AN OUTCOME**Select one of your ideas to develop into a final design for a water bottle based on your design story. Use Visual Communication techniques to develop and explain your water bottle. Show consideration of:* who will use the bottle?
* where the bottle will be used and what functionality it will need?
* what are the parts and how are they assembled?

Collecting evidence of learning for assessment portfolio towards: **Achievement Standard 1.3** *Use visual techniques to develop product or spatial design ideas that consider people* (External, 5 Credits) | 6 weeks |
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|  | **PREPARATION for EXTERNAL SUBMISSION of 1.3** | 1 week |
| Use visual communication skills and presentation techniques to communicate a design idea or outcome.Develop visual skills and techniques to communicate details of design ideas and outcomes. | **TEACHING CAD BASICS for Product design:*** Teach basics of CAD (Solidworks, OnShape, or Rhino).
* Creating simple parts.
* Adding features.
* Editing.
* Making assemblies.
* Creating drawings (3rd angle Orthographic views, section views, paraline views, cutaway views, exploded views etc).
 | 2 weeks |
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| **INSTRUMENTAL DRAWING OF FINAL WATER BOTTLE** Use instrumental drawing techniques to communicate the features and details of your final water bottle:* Use CAD to create the parts and details for your bottle.
* Make an assembly of the parts.
* Create 1-2 drawing sheets of your assembly that show the features and details of your water bottle.
* Select instrumental views and techniques that show the features of your design most clearly.

Collecting evidence of learning for assessment portfolio towards: **Achievement Standard 1.4** *Use instrumental drawing techniques to communicate a product or spatial design outcome* (External, 5 Credits) | 5 weeks |
|  | **PREPARATION for EXTERNAL SUBMISSION of 1.4** | 1 week |