

Level 6 - New Zealand Curriculum

Digital Technologies | Hangarau Matihiko

# Teaching and learning programme



Digital media: Website



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The full teaching and learning programme resources,  
associated materials and an assessment task will be  
supplied in 2018.

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## Summary

The programme is based around an eBook/tutorial that includes embedded video. Students are provided with detailed instructions or walkthrough showing how to create a fully functioning, refined website using HTML and CSS. No prior coding knowledge is assumed, and all the software used is open-source.

### By the end of this teaching and learning programme, students will be able to:

- develop a refined media outcome (website context).

### Duration (terms, weeks, teaching periods)

5 weeks including assessment; this assumes five hours' class time per week.

### Key teaching and learning concepts – the big ideas

- Websites can be created using HTML and CSS.
- Both HTML and CSS should be validated to ensure that the final outcome is robust and future-proof
- A well-designed site is easy to use. Usability should be confirmed by doing simple usability testing.

### Alignment to NZC and/or Te Marautanga

Students will:

- design and develop a basic web page
- ensure that their outcome is easy to use (preferably by including some usability testing as part of the process)
- be ethical when it comes to designing and creating their outcome. Specifically, they will honour copyright and will also respect their users' privacy.



### Links to other learning areas

This programme involves documenting three books that students have read and could be used in conjunction with the English achievement standard 90854.

### Teaching and learning pedagogy

The programme makes considerable use of 'flipped' learning, where the process has been videoed and students are encouraged to create their own practice website by following the video tutorials. They are also encouraged to go beyond the basics where possible. Using an eBook with embedded video means that teachers are free to work with individuals and trouble-shoot in a way that would not be possible using more traditional methods. Teachers could encourage students to collaborate and work in small groups during work in small groups during the teaching and learning.

### Prior knowledge/place in learning journey

No prior knowledge is assumed. If students have created websites before, this programme will help to formalise their learning and also ensure that they develop good design (and coding) habits.

## Resources required

- An internet connection
- A suitable text editor (I recommend using Brackets)
- A modern browser (Firefox is ideal, Chrome is OK. Internet Explorer would be a browser of last resort as it does not have a developer console.)
- Access to a PHP environment. Using XAMPP / local host is one option. This is highly desirable as it is needed for server side includes. If this is not possible, the programme can be adapted to use 'straight' HTML or Javascript includes, but this is less than ideal.

Software used:

- Brackets
- GIMP (for minor image editing)
- Firefox or Chrome
- Draw.io
- QiuReader (Mozilla) or Readium (Chrome)

## How you might adapt this in your classroom

Any context where students make a multi-page website would work with this programme. There are some opportunities for differentiation in the programme (eg, including Javascript to filter or search a list of links). Students should be encouraged to go beyond the basics if they have created websites before.

## Assessment

An assessment task will be developed for this programme. The default task asks students to create a website reviewing three of their favourite foods or eating establishments. It is hoped that students aiming for Merit and Excellence grades will go beyond the basics in their assessment and use this as an opportunity to create a high-quality outcome showing what they have learned.

It is recommended that ten hours is provided for the assessment, giving students two weeks of class time to create their websites and the associated documentation.



<b>Term 1</b>	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
<b>Topics covered</b>	<b>Basic Websites (91880)</b>					
<b>Week Plan</b>	Basic layout	First page	Linked pages	Finishing touches	Assessment	



# Term outline

## The Learning context:

What is being covered	Approximate duration	Specific Learning Outcomes Students will be able to:	Learning Activities	Resources
Basic web page layout	5 hours	<ul style="list-style-type: none"> <li>• Create a plan for their site</li> <li>• Set up the basic structure of the first page.</li> </ul>	<ul style="list-style-type: none"> <li>• Download required software if using own device</li> <li>• Download ePub and support files</li> <li>• Set up a folder structure</li> <li>• Create a wire frame for the site</li> <li>• Choose suitable colours</li> <li>• Check that the chosen colours are accessible to colour blind users. Use: <a href="http://www.vischeck.com">http://www.vischeck.com</a></li> <li>• Learn how CSS works (including how to set up styles that affect multiple elements and how to target elements (ie, understand the difference between elements separated by commas and those separated by spaces)</li> <li>• Use a CSS grid to set up the page's structure.</li> </ul>	<p><b>Software</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Firefox</a></li> <li>• <a href="#">Brackets</a></li> <li>• <a href="#">XAMPP</a> (for PHP includes)</li> <li>• <a href="#">Draw.io</a> (wire framing)</li> </ul> <p><b>Plugins (Firefox)</b></p> <ul style="list-style-type: none"> <li>• <a href="#">QiuReader</a></li> <li>• <a href="#">FireShot</a></li> </ul> <p><b>Palette generators:</b></p> <ul style="list-style-type: none"> <li>• <a href="https://www.canva.com/color-palette/">https://www.canva.com/color-palette/</a></li> <li>• <a href="http://www.palettefx.com/">http://www.palettefx.com/</a></li> <li>• <a href="https://labs.tineye.com/color/">https://labs.tineye.com/color/</a></li> </ul>

## The Learning context *(continued)*:

What is being covered	Approximate duration	Specific Learning Outcomes Students will be able to:	Learning Activities	Resources
			<p><b>Checkpoint 1:</b> Submit the following:</p> <ul style="list-style-type: none"> <li>• Site wireframe (scan or screenshot) and place in documentation template</li> <li>• Screenshots showing that the site is accessible to colour blind users</li> <li>• Screenshot showing the first page layout and evidence that the HTML and CSS validate.</li> </ul>	<p><i>Teacher note: Use Palette FX and TinEye together to get a really good palette and the associated colour codes. Students should use Canva too, as this is an easy way to show that they have considered alternatives and chosen the best option.</i></p>
Create index page	5 hours	<ul style="list-style-type: none"> <li>• Create the first page of the site.</li> </ul>	<ul style="list-style-type: none"> <li>• Create the first page of the site</li> <li>• Put content into the banner, navigation, main part, side bar and footer</li> <li>• Validate both the HTML and CSS</li> <li>• Optionally use Javascript to allow users to filter or search for their local library.</li> </ul> <p><b>Checkpoint 2:</b> Submit the following:</p> <ul style="list-style-type: none"> <li>• Screenshots to show how you have refined your page</li> <li>• Your completed index page</li> <li>• Evidence that the HTML and CSS validate</li> </ul> <p><i>Teacher note: You could ask students to submit their code instead of a screenshot, but screenshots are quick to mark and should give an indication of whether students have done the required work.</i></p>	ePub and documentation template

**The Learning context** *(continued)*:

What is being covered	Approximate duration	Specific Learning Outcomes Students will be able to:	Learning Activities	Resources
Linked pages	5 hours	<ul style="list-style-type: none"> <li>• Create the contact page and other site pages.</li> </ul>	<ul style="list-style-type: none"> <li>• Create server side includes for content that will be common on all pages, ie, banner, logo, navigation and footer. If you can't access a PHP environment, consider using Javascript to do this.</li> </ul> <p><i>You don't have to use includes for common content, but not doing so makes editing the navigation or common content extremely inefficient and inconvenient.</i></p> <ul style="list-style-type: none"> <li>• Use Google Forms to create a contact form. Students should show the difference between the new &lt;ugly&gt; form and the better old form.</li> </ul> <p><i>Note that if they use email validation on the new form, they can't revert to the old form, which could be problematic.</i></p> <ul style="list-style-type: none"> <li>• Edit Google's embed code and style the form so that the HTML validates and the form displays correctly on the page</li> <li>• Test the contact form</li> <li>• Develop the remaining site pages using the index page as a template.</li> </ul>	

**The Learning context** *(continued)*:

What is being covered	Approximate duration	Specific Learning Outcomes Students will be able to:	Learning Activities	Resources
			<p><b>Checkpoint 3:</b> Submit the following:</p> <ul style="list-style-type: none"> <li>• A link to your documentation. This should include evidence of refining your contact page.</li> <li>• Screenshots (or a screencast) showing that your pages all display correctly. You should also be able to confirm that all your HTML validates. You should provide proof that your contact page validates.</li> </ul> <p><i>Teacher note: Generally I will take a student's word that their HTML validates and will spot-check pages. If the contact page validates, usually the rest of the pages are fine, too. If you do want to spot-check student code, ask them to submit their code as well as the associated screenshots. (It will take longer to mark.)</i></p>	



**The Learning context** *(continued)*:

What is being covered	Approximate duration	Specific Learning Outcomes Students will be able to:	Learning Activities	Resources
Finishing touches		<ul style="list-style-type: none"> <li>• Complete the website and refine where necessary.</li> </ul>	<ul style="list-style-type: none"> <li>• Get a volunteer to test the page's usability</li> <li>• Make notes on anything that requires changing (Document this on your template in the form of a series of 'before' screenshots under suitable headings)</li> <li>• Make the changes!</li> <li>• Provide 'after' screenshots on your template and write one or two line notes or justifications, where necessary.</li> </ul> <p><b>Checkpoint 4:</b> Practice site</p> <ul style="list-style-type: none"> <li>• Submit your practice site and documentation which should include the results of your usability testing.</li> </ul>	Usability 'script'