Stage 5 – Industrial Technology Multimedia

# Anyone, anywhere, anytime

## Summary

Students develop their understanding of effective web design, including the fundamental principles of accessibility and user experience. After defining the purpose and the needs of the target audience, the unit provides opportunity for students to learn the technical knowledge and skills required to create image assets and build a responsive website. By exploring the technology and current industry practices students gain awareness of the trends in this field. Students will peer-evaluate the usability and functionality of each other’s websites.

## Duration

15-20 weeks 2.5 hours/week

## Outcomes

* **IND5-1** identifies, assesses, applies and manages the risks and WHS issues associated with the use of a range of tools, equipment, materials, processes and technologies
* **IND5-2** applies design principles in the modification, development and production of projects
* **IND5-3** identifies, selects and uses a range of hand and machine tools, equipment and processes to produce quality practical projects
* **IND5-4** selects, justifies and uses a range of relevant and associated materials for specific applications
* **IND5-5** selects, interprets and applies a range of suitable communication techniques in the development, planning, production and presentation of ideas and projects
* **IND5-6** identifies and participates in collaborative work practices in the learning environment
* **IND5-7** applies and transfers skills, processes and materials to a variety of contexts and projects
* **IND5-8** evaluates products in terms of functional, economic, aesthetic and environmental qualities and quality of construction
* **IND5-9** describes, analyses and uses a range of current, new and emerging technologies and their various applications
* **IND5-10** describes, analyses and evaluates the impact of technology on society, the environment and cultural issues locally and globally

[Industrial Technology 7-10](https://educationstandards.nsw.edu.au/wps/portal/nesa/k-10/learning-areas/technologies/industrial-technology-2019) Syllabus © NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales, 2019

## Unit overview

Students work individually or in small groups on a range of design focussed activities to define purpose and build an understanding of the needs of the target audience and how their website will help the visitor achieve their goal.

Students explore design factors which improve the visual appearance and usability of webpages and enhance a users’ experiences.

Students' practical skills develop in both the creation and manipulation of digital images and the use of software tools to create webpages. Students learn the concepts and technology that underpin how websites function including an understanding of how HTML and CSS code works.

Students learn about techniques that enable the website content to be well organised and accessible creating a more effective website.

Students are assessed on their ability to document and justify design choices and apply techniques to transform designs into functional webpages. Students document the processes, including an evaluation of the final product in a project folio.

## Resources overview

### Physical resources

* Computer room access with standard eT4L software installed. For example: Adobe Creative Cloud
* Digital cameras and or digital video cameras
* Memory cards and readers
* Camera tripods, diffusers and lighting equipment (if available)
* Post-It notes or index cards

### Websites

#### Weeks one and two

* Equipment Safety in Schools (ESIS) [online.det.nsw.edu.au/esis/teacher](https://online.det.nsw.edu.au/esis/teacher/)
* Health and safety – procedures and tools: [education.nsw.gov.au/inside-the-department/health-and-safety/risk-management/procedures-and-tools](https://education.nsw.gov.au/inside-the-department/health-and-safety/risk-management/procedures-and-tools)
	+ Department of Education Hazard Report Form: [education.nsw.gov.au/inside-the-department/health-and-safety/risk-management/procedures-and-tools](https://education.nsw.gov.au/inside-the-department/health-and-safety/risk-management/procedures-and-tools) (in support materials section)
* WHS in the office: [comcare.gov.au/virtual\_workplaces/office/rooms/office](https://www.comcare.gov.au/virtual_workplaces/office/rooms/office)
* SafeWork NSW advice on sedentary work: [safework.nsw.gov.au/hazards-a-z/sedentary-work](https://www.safework.nsw.gov.au/hazards-a-z/sedentary-work)
* Safe use of portable computers: [education.nsw.gov.au/inside-the-department/health-and-safety/risk-management/computers-and-ergonomics](https://education.nsw.gov.au/inside-the-department/health-and-safety/risk-management/computers-and-ergonomics)
* Tagging of equipment: [education.nsw.gov.au/inside-the-department/health-and-safety/risk-management/plant-and-equipment](https://education.nsw.gov.au/inside-the-department/health-and-safety/risk-management/plant-and-equipment)
* Electrical testing: [education.nsw.gov.au/school-infrastructure-nsw/compliance-and-safety/electrical-testing](https://education.nsw.gov.au/school-infrastructure-nsw/compliance-and-safety/electrical-testing)
* Why people visit websites concise list: [intuitivewebsites.com/articles/why-people-visit-websites](https://intuitivewebsites.com/articles/why-people-visit-websites/)
* The impact of voice searching technology - [searchenginewatch.com/2018/05/30/where-were-going-we-wont-need-websites](https://www.searchenginewatch.com/2018/05/30/where-were-going-we-wont-need-websites/)
* Google Forms: [docs.google.com/forms](https://docs.google.com/forms)
* Mentimeter online survey tool: [mentimeter.com](https://www.mentimeter.com/)

#### Week three

* UX Foundations: Accessibility
	+ What is accessibility?: [linkedin.com/learning/ux-foundations-accessibility/what-is-accessibility](https://www.linkedin.com/learning/ux-foundations-accessibility/what-is-accessibility)
	+ Views of accessibility: [linkedin.com/learning/ux-foundations-accessibility/views-of-accessibility](https://www.linkedin.com/learning/ux-foundations-accessibility/views-of-accessibility)
* Accessibility for Web Design (LinkedIn Learning):
	+ Example an e-commerce purchase: [linkedin.com/learning/accessibility-for-web-design/an-ecommerce-purchase](https://www.linkedin.com/learning/accessibility-for-web-design/an-ecommerce-purchase)
	+ The use of colour: [linkedin.com/learning/accessibility-for-web-design/the-use-of-color](https://www.linkedin.com/learning/accessibility-for-web-design/the-use-of-color)
	+ Colour contrast: [linkedin.com/learning/accessibility-for-web-design/color-contrast](https://www.linkedin.com/learning/accessibility-for-web-design/color-contrast)
* Lea Verou's contrast checker: [leaverou.github.io/contrast-ratio](http://leaverou.github.io/contrast-ratio)
* Jonathan Snook's contrast checker: [snook.ca/technical/colour\_contrast/colour.html](https://snook.ca/technical/colour_contrast/colour.html)
* Colour blindness: [sydneyeyehospitalfoundation.org.au/the-best-test-for-colour-blindness](https://sydneyeyehospitalfoundation.org.au/the-best-test-for-colour-blindness/)
* Online colour blindness test: [color-blindness.com/ishihara\_cvd\_test/ishihara\_cvd\_test.html](https://www.color-blindness.com/ishihara_cvd_test/ishihara_cvd_test.html)
* Simpler online version of Ishihara Test: [colormax.org/color-blind-test](https://colormax.org/color-blind-test/)
* Colour blindness simulator: [color-blindness.com/coblis-color-blindness-simulator](https://www.color-blindness.com/coblis-color-blindness-simulator/)
* Accessibility for deaf and hard of hearing people: [developer.paciellogroup.com/blog/2017/03/sounding-out-the-web-accessibility-for-deaf-and-hard-of-hearing-people-part-2](https://developer.paciellogroup.com/blog/2017/03/sounding-out-the-web-accessibility-for-deaf-and-hard-of-hearing-people-part-2/)
* Copyright basics: [communications.gov.au/what-we-do/copyright/copyright-policy](https://www.communications.gov.au/what-we-do/copyright/copyright-policy)
* Hearing loss simulator: [starkey.com.au/hearing-loss-simulator#!/hls](https://www.starkey.com.au/hearing-loss-simulator#!/hls)
* Simulation of Vision Conditions: [perkinselearning.org/scout/blog/simulation-vision-conditions](https://www.perkinselearning.org/scout/blog/simulation-vision-conditions)
* Colour blind world: [neitzvision.com/the-basics/color-blind-world](http://www.neitzvision.com/the-basics/color-blind-world/)

#### Week four

* Fonts, colours and images: [canva.com/learn/wp-content/uploads/2014/07/CDS\_Workshop2\_compressed.pdf](https://www.canva.com/learn/wp-content/uploads/2014/07/CDS_Workshop2_compressed.pdf)
* Backgrounds, shapes and layouts: [canva.com/learn/wp-content/uploads/2014/06/CDS\_Workshop3\_compressed.pdf](https://www.canva.com/learn/wp-content/uploads/2014/06/CDS_Workshop3_compressed.pdf)
* Canva Color wheel: [canva.com/colors/color-wheel](https://www.canva.com/colors/color-wheel/)
* Adobe Color: [color.adobe.com/create](https://color.adobe.com/create)
* Colour basics: [usability.gov/how-to-and-tools/methods/color-basics.html](https://www.usability.gov/how-to-and-tools/methods/color-basics.html)
* Explanation of hex colour codes: [university.webflow.com/lesson/color-values-hex-rgba-color-names-intro](https://university.webflow.com/lesson/color-values-hex-rgba-color-names-intro)
* Canva colour palette generator: [canva.com/colors/color-palette-generator](https://www.canva.com/colors/color-palette-generator/)
* 100 colour combinations based on photos : [canva.com/learn/100-color-combinations](https://www.canva.com/learn/100-color-combinations/)
* Learn about branding blogs: [canva.com/learn/branding](https://www.canva.com/learn/branding/)
* Branding basics: [canva.com/learn/wp-content/uploads/2014/05/CDS\_Workshop4\_compressed.pdf](https://www.canva.com/learn/wp-content/uploads/2014/05/CDS_Workshop4_compressed.pdf)
* What is a brand?: [linkedin.com/learning/branding-foundations/what-is-a-brand](https://www.linkedin.com/learning/branding-foundations/what-is-a-brand)
* Understanding why brands are important: [linkedin.com/learning/branding-foundations/understanding-why-brands-are-important](https://www.linkedin.com/learning/branding-foundations/understanding-why-brands-are-important)
* What is brand association: [brandmarketingblog.com/articles/branding-definitions/brand-association](https://brandmarketingblog.com/articles/branding-definitions/brand-association/)
* Brand association types: [marketing91.com/brand-association](https://www.marketing91.com/brand-association/)
* Branding and identity: [edu.gcfglobal.org/en/beginning-graphic-design/branding-and-identity/1](https://edu.gcfglobal.org/en/beginning-graphic-design/branding-and-identity/1/)
* Current colour trends: [color.adobe.com/trends](https://color.adobe.com/trends)

#### Week five

* [UX Design vs UI Design - What's The Difference? (2020)](https://www.youtube.com/watch?v=LWLRTIkRDqA) (duration 11:55)
* What is UI design? What is UX design?: [uxplanet.org/what-is-ui-vs-ux-design-and-the-difference-d9113f6612de](https://uxplanet.org/what-is-ui-vs-ux-design-and-the-difference-d9113f6612de)
* UI vs. UX: What’s the difference: [usertesting.com/blog/ui-vs-ux](https://www.usertesting.com/blog/ui-vs-ux/)
* Explanation of card-sorting: [smashingmagazine.com/2014/10/improving-information-architecture-card-sorting-beginners-guide](https://www.smashingmagazine.com/2014/10/improving-information-architecture-card-sorting-beginners-guide/)
* Card-sorting process: [usability.gov/how-to-and-tools/methods/card-sorting.html](https://www.usability.gov/how-to-and-tools/methods/card-sorting.html)
* Card-sorting simulation: [usabilitest.com/uxoEpoY](https://www.usabilitest.com/uxoEpoY)
* 15 must-see user persona templates: [justinmind.com/blog/user-persona-templates](https://www.justinmind.com/blog/user-persona-templates/)
* The UXer’s guide to user personas: [justinmind.com/blog/uxers-guide-to-user-personas](https://www.justinmind.com/blog/uxers-guide-to-user-personas/)
* The design thinking process for better UX design: [justinmind.com/blog/design-thinking-process-ux-design](https://www.justinmind.com/blog/design-thinking-process-ux-design/)
* Make navigation useful: [uxmag.com/articles/visual-design-and-usability-yellow-brick-road](https://uxmag.com/articles/visual-design-and-usability-yellow-brick-road)
* 3-click rule: [nngroup.com/articles/3-click-rule](https://www.nngroup.com/articles/3-click-rule/)

#### Week six

* Common page layouts: [developer.mozilla.org/en-US/docs/Learn/Common\_questions/Common\_web\_layouts](https://developer.mozilla.org/en-US/docs/Learn/Common_questions/Common_web_layouts)
* Explanation of wireframing: [usability.gov/how-to-and-tools/methods/wireframing.html](https://www.usability.gov/how-to-and-tools/methods/wireframing.html)
* Anatomy of page layout components: [webflow.com/blog/web-page-layout-101-website-anatomy-every-designer-needs-to-learn](https://webflow.com/blog/web-page-layout-101-website-anatomy-every-designer-needs-to-learn)
* Page layout examples: [invisionapp.com/inside-design/10-website-layouts](https://www.invisionapp.com/inside-design/10-website-layouts/)
* Whimsical – in browser wireframing app: [whimsical.com/wireframes](https://whimsical.com/wireframes)
* How to make a style guide: [designmodo.com/create-style-guides](https://designmodo.com/create-style-guides/)
* Examples of style guides: [blog.hubspot.com/marketing/examples-brand-style-guides](https://blog.hubspot.com/marketing/examples-brand-style-guides)
* More examples of style guides and style systems: [styleguides.io/examples.html](http://styleguides.io/examples.html)
* Hemingway App: [hemingwayapp.com](http://hemingwayapp.com/)

#### Week seven

* Webflow university – image file types: [university.webflow.com/lesson/image-file-types-elements](https://university.webflow.com/lesson/image-file-types-elements) (duration 2:22)
* Webflow university – Image resolution: [university.webflow.com/lesson/image-resolution-elements](https://university.webflow.com/lesson/image-resolution-elements) (duration 3:28)
* Digital imaging for business professionals LinkedIn Learning course: [linkedin.com/learning/digital-imaging-for-business-professionals](https://www.linkedin.com/learning/digital-imaging-for-business-professionals/). This course covers the theory of image editing concepts comprehensively.
* Getting started with Adobe Photoshop [helpx.adobe.com/au/photoshop/get-started.html](https://helpx.adobe.com/au/photoshop/get-started.html)
* Getting started with Adobe Illustrator: [helpx.adobe.com/au/illustrator/get-started.html](https://helpx.adobe.com/au/illustrator/get-started.html)
* Drawing icons for the web in Illustrator: [helpx.adobe.com/au/illustrator/how-to/icon-design.html](https://helpx.adobe.com/au/illustrator/how-to/icon-design.html)
* A range of short 3-5min Adobe Photoshop tutorials: [helpx.adobe.com/au/photoshop/tutorials.html](https://helpx.adobe.com/au/photoshop/tutorials.html)
* GFC LearnFree org Photoshop tutorials: [edu.gcfglobal.org/en/photoshopbasics](https://edu.gcfglobal.org/en/photoshopbasics/)

#### Week eight

* [Three point lighting](https://www.youtube.com/watch?v=w-OPfV-kq6Y) (duration 9:55)

#### Week nine

* Analysis of image types for the web: [linkedin.com/learning/photoshop-for-web-design/image-types-for-the-web](https://www.linkedin.com/learning/photoshop-for-web-design/image-types-for-the-web) (duration 3:57)
* Non-destructive techniques: [helpx.adobe.com/au/photoshop/using/nondestructive-editing.html](https://helpx.adobe.com/au/photoshop/using/nondestructive-editing.html)

#### Week ten

* Using type tool in Illustrator: [helpx.adobe.com/au/illustrator/how-to/text-basics.html](https://helpx.adobe.com/au/illustrator/how-to/text-basics.html)
* Typography: [edu.gcfglobal.org/en/beginning-graphic-design/typography/1](https://edu.gcfglobal.org/en/beginning-graphic-design/typography/1/)

#### Week 11

* [HTML structure - Web design tutorial](https://www.youtube.com/watch?v=U4nbKMJRVaw) duration 1:55 (stop at 1:33 before Webflow advertisement)
* [HTML and CSS for beginners - Webflow web design tutorial](https://www.youtube.com/watch?v=w-kBRUXsuSQ) duration 3:37 (stop at 2:54 before Webflow advertisement)
* Ignoring the references to their product, [Webflow university](https://university.webflow.com) has some useful and easy to understand video clips in their [intro to web design course](https://www.youtube.com/watch?v=w-kBRUXsuSQ).

#### Week 15

* Web Application Testing: 8 Step Guide to Website Testing: [guru99.com/web-application-testing.html](https://www.guru99.com/web-application-testing.html)
* Testing web accessibility: [a11y.com.au/web-accessibility-testing-tools](https://a11y.com.au/web-accessibility-testing-tools)
* Chrome DevTools: [developers.google.com/web/tools/chrome-devtools/speed/get-started](https://developers.google.com/web/tools/chrome-devtools/speed/get-started)
* Optimize Website Speed With Chrome DevTools: [developers.google.com/web/tools/chrome-devtools/speed/get-started](https://developers.google.com/web/tools/chrome-devtools/speed/get-started)
* Lighthouse: [developers.google.com/web/tools/lighthouse](https://developers.google.com/web/tools/lighthouse)
* Test my site: [thinkwithgoogle.com/intl/en-gb/feature/testmysite](https://www.thinkwithgoogle.com/intl/en-gb/feature/testmysite/)
* Is your web page mobile-friendly? [search.google.com/test/mobile-friendly](https://search.google.com/test/mobile-friendly)
* Test website on mobile devices: [ready.mobi/](https://ready.mobi/)
* W3C validator: [validator.w3.org](https://validator.w3.org/)
* Infographic of internet speed: [assets.entrepreneur.com/article/an-accelerated-history-internet-speed.jpg](https://assets.entrepreneur.com/article/an-accelerated-history-internet-speed.jpg)
* Google Analytics: [analytics.google.com/analytics/web/provision/#/provision](https://analytics.google.com/analytics/web/provision/#/provision)
* Siteimprove: [siteimprove.com](https://siteimprove.com/)
* Example of website heatmap software: [crazyegg.com/snapshots](https://www.crazyegg.com/snapshots)

## Content

### Weeks one and two

|  |  |  |  |
| --- | --- | --- | --- |
| **Outcome** | **Teaching and learning** | **Evidence of learning** | **Adjustments and registration** |
| Demonstrate safe practices and procedures | **Teacher**Classroom expectations and organisation.* Introduces the unit 'anyone, anywhere, anytime' and provides an overview of unit and assessment.
* Identifies any prior knowledge that students may have of electronics to assist with adjustments or extensions.
* Inducts students into computer lab usage and discuss what ergonomics and safety is, and how it is to be applied during the completion of practical projects.
* Explain the need for maintaining a clean and hygienic work environment, having rest breaks from looking at screens to avoid eye strain and the application of electrical safety in the computer lab through reporting trip hazards and damaged equipment and cables. Refer to [ESIS](http://online.det.nsw.edu.au/esis/teacher/) for information on equipment safety in schools.
 | * Students demonstrate safe work practices whilst in the classroom and computer lab and readily observed sitting with correct posture.
* Students check that power leads for powered equipment are in good condition and have been tested and tagged before plugging them into a wall socket.
 |  |
| Safely use and maintain multimedia technology | **Teacher:*** Demonstrate the safe use and maintenance of all equipment related to the project for example:
	+ camera equipment packed away
	+ batteries and chargers stored safely
	+ check cables are in good working order.

**Students:*** Complete ergonomic checklist.
* Visually inspect the state of electrical and data cables for their workstation in the computer lab and confirm that they are safe to use.
 | * Students demonstrate the safe use of equipment and proper care is taken, reporting any malfunctions, damage or hazards related to equipment to the teacher.
* Students demonstrate familiarity with the safe set-up, use and maintenance of cameras and equipment.
 |  |
| Safely use and maintain multimedia technology | **Extension (optional)****Teacher*** Demonstrate examples of damaged cables and typical causes and explain the role of cable testing in preventing hazards.

**Teacher and students*** Discuss the role of batteries (in particular lithium) in powering portable devices such as cameras and explain the risks.
* Discuss the role of wireless technology and whether this raises other risks or hazardous issues.
 | * Students can identify unsafe equipment.
* Students write a short report on the advantages and disadvantages of the relevant technology.
 |  |
|  | **Teacher note:** the introduction for web design should explore the “what?” and pose the “why?” questions before delving into the “how?” Questions that could frame this discussion:* What is a website? (What counts as a website?)
* Why do you use them?
* What role do websites play today?
* Why are websites important? (Are they?)
* What does ‘source of truth’ mean?
 |  |  |
| Identify the impact of multimedia on society and the environmentExplore multimedia productions that consider cultural, personal and social diversity | **Teacher*** Lead discussion on “What is a website and why do you use them?” ([general examples](https://intuitivewebsites.com/articles/why-people-visit-websites/) might include education, e-commerce, [searching for information](https://www.searchenginewatch.com/2018/05/30/where-were-going-we-wont-need-websites/)).
* Use online survey/polling tools, such as [Google Forms](https://docs.google.com/forms) or [Mentimeter](https://www.mentimeter.com/) to gather student’s views for class discussion.
 | * Students participate in classroom discussion and contribute ideas.
* In addition to participating in surveys, students might use survey tools to collect and evaluate their own data sets to substantiate or test an opinion/belief.
 |  |
| Identify the impact of multimedia on society and the environmentExplore multimedia productions that consider cultural, personal and social diversity | **Students*** Identify and record in a table/spreadsheet various types of online platforms and the type of information they provide, for example:
	+ various types of websites, email, blogs, social media.
* Use examples of different websites to investigate and analyse the functions of the websites, summarising within a table.
 | * Students show they can distinguish between various types of online platforms and assign various types of online information into set categories on their table/spreadsheet.
* Students create a list of purposes for future reference when creating a website.
 |  |
| Explore multimedia productions that consider cultural, personal and social diversity | **Teacher and Students*** Discuss the idea of a “source of truth” and what this might mean to various people, for example:
	+ a news site presenting news and current affairs
	+ a school communicating information to parents
	+ a company providing information on their products
	+ a sporting club calling people to join
	+ a government department or authority providing information or access to online services
	+ a business promoting its services
	+ a not-for-profit or charity, stating their role in the community and their own call to action
	+ social media platform with user’s views and content.
 | * Students participate in classroom discussion and contribute ideas.
* Students assign “values of trust” or authority to various scenarios presented and justify their choices, either verbally or in writing.
 |  |
|  | **Extension (optional)*** Investigate and assess the relative authority of information retrieved from websites by comparing it with other sources of information, including traditional and other online platforms.
* Discuss the [impact of disruptive smart speakers](https://www.searchenginewatch.com/2018/05/30/where-were-going-we-wont-need-websites/) and assistants with voice searching technology, including Amazon, Google and Siri on the future of websites.
* Compare virtual real estate with the physical environment in terms of marketing and sales opportunities and costs.
* Use collected survey data to develop an idea of demographics and usage patterns, or further develop categorisation of online content.
 | * Students create a report which shows some analysis and evaluation of their comparisons.
* Students could discuss the advantages and disadvantages of both scenarios justifying their preference.
* Students demonstrate a methodical approach to collecting specific data and valid interpretation of data.
 |  |
|  | **Teacher note:** generally, an internet search for “Best” and/or “Worst” designed websites will retrieve lists and examples of websites where the author highlights good and bad features.**Teacher*** Present a curated sample (3 or 4) of both well-designed and/or poorly designed webpages/websites and highlight the good and poor design elements.

**Students*** Create a list of pet hates/annoyances that turn people off re-visiting a website.
* Analyse a sample of webpage/website using thinking tools/scaffolds like PMI or SWOT and a predefined list of criteria.
 | * Students are able to identify factors associated with good web design.
 |  |

### Week three

|  |  |  |  |
| --- | --- | --- | --- |
| Outcome | Teaching and learning | Evidence of learning | Adjustments and registration |
|  | **Teacher note:** the impact of this week will be the change in or positive reinforcement of students’ attitudes towards accessibility and inclusivity. Questions that could frame the discussion:* [What is accessibility?](https://www.linkedin.com/learning/ux-foundations-accessibility/what-is-accessibility)
* Why do we care?
* Who does it impact?

**Teacher*** Discuss accessibility and provide examples of accessibility issues or solutions in the physical and [online world](https://www.linkedin.com/learning/accessibility-for-web-design/an-ecommerce-purchase). In the discussion raise issues like fairness, equity, and inclusivity.
 | Students participate in classroom discussion and contribute ideas as they explore the impact of accessibility. |  |
|  | Organise students to participate in practical activities with some simulated impairment:* tinted glasses, glasses with incorrect lenses
* blind folds
* earmuffs/plugs
* crutches/wheelchair (if available).
 | Students engage with activity and reflect on the challenges experienced. |  |
|  | **Students*** Students guide or assist another student with a simulated impairment to perform a task, for example:
	+ walking around the classroom
	+ taking notes
	+ using the computer to type a simple document/take notes
	+ simulating the process of buying an item and handling money.
 | * Students can describe the impact the impairment, either real or simulated, has on their perception of the world and their ability to participate and access information.

Students can propose strategies and/or technology to overcome the challenges of the situation. |  |
|  | **Teacher*** Conduct a simple activity of presenting colour blindness checks on screen and have students check if they see numbers/letters within the patterns. Several websites describe various colour blindness tests and simulate the effect of colour blindness, for example:
	+ [Sydney Eye Hospital Foundation](https://sydneyeyehospitalfoundation.org.au/the-best-test-for-colour-blindness/)
	+ [Ishihara Test](https://www.color-blindness.com/ishihara_cvd_test/ishihara_cvd_test.html)
	+ [Color Blindness Simulator](https://www.color-blindness.com/coblis-color-blindness-simulator/)

(Be mindful to consider if any students in the class may have colour blindness.) | * Students engage with activity.
 |  |
|  | Define [copyright](https://www.communications.gov.au/what-we-do/copyright/copyright-policy) and identify the relevant Australian laws. | * Students recognise their responsibilities in how they may use another person’s work.
 |  |
|  | **Extension (optional)*** A search online will also list several websites which provide simulations of [hearing loss](https://www.starkey.com.au/hearing-loss-simulator#!/hls) and various [vision impairments](https://www.perkinselearning.org/scout/blog/simulation-vision-conditions) that could either be demonstrated or students could view independently.
* Present to students [images](http://www.neitzvision.com/the-basics/color-blind-world/) of what a colour-blind person might see in comparison to what a normal sighted person may experience.
* Outline the principles of accessible design.
 | * Students list the considerations and devise strategies to present information to improve accessibility.
 |  |

### Week four

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| --- | --- | --- | --- |
| Outcome | Teaching and learning | Evidence of learning | Adjustments and registration |
| Identify and investigate factors influencing design in web design | **Design Theory and Branding Basics****Teacher note:** students need an introduction to some of the concepts of design theory, for example: [colour](https://www.usability.gov/how-to-and-tools/methods/color-basics.html), layout, fonts and typography.These design concepts are applied to branding and marketing within an online environment. Questions that could frame the discussion:* What are brands for?
* Why do they exist?
* What meaning do colours convey?

What’s the difference between a product and a service? |  |  |
|  | **Teacher*** Using the [Fonts, Colours and Images](https://www.canva.com/learn/wp-content/uploads/2014/07/CDS_Workshop2_compressed.pdf) slideshow, discuss with students some of the design choices to consider and examine the examples presented.
* Demonstrate the use of the [Canva](https://www.canva.com/colors/color-wheel/) or [Adobe](https://color.adobe.com/create) colour wheel and explain what the [hex colour codes](https://university.webflow.com/lesson/color-values-hex-rgba-color-names-intro) mean and how they can used in web design.

**Note:** [Adobe Color](https://color.adobe.com/create) allows colours to be selected from an uploaded image, but it does requires login to save any colour theme. [Canva’s color palette generator](https://www.canva.com/colors/color-palette-generator/) also allows colours to be selected from an uploaded image. |  |  |
| Identify and investigate factors influencing design in web design | **Students**Use the colour wheel on either the Canva website or the Adobe Color website to generate a colour palette and record this for inclusion in their folio. | Students engage with activity and generate a colour palette with hex codes to use in their website. |  |
| Select and incorporate content for multimedia presentations that is appropriate to the target audience | **Teacher*** Using the [Branding Basics](https://www.canva.com/learn/wp-content/uploads/2014/05/CDS_Workshop4_compressed.pdf) slideshow, discuss with students some of the design choices to consider and examine the examples presented.
* Define [what a brand is](https://www.linkedin.com/learning/branding-foundations/what-is-a-brand) and outline [why brands](https://www.linkedin.com/learning/branding-foundations/understanding-why-brands-are-important) can be beneficial.
* Explore [brand association](https://brandmarketingblog.com/articles/branding-definitions/brand-association/) and identify some brand attributes, for example:
	+ credit
	+ reliability
	+ performance
	+ status.
 | Students engage with activity and contribute to discussion. |  |
|  | **Students**Participate in brand association activities which reflect these attributes, for example:* list “What’s your favourite brand of … and why?"
 | Students engage with activity demonstrating their choice of brands |  |
|  | **Teacher*** Scaffold the generation of ideas for students to design a website for either a product or a service. The product/service could be real/existing or fictional/imaginary.

**Students*** Choose either the category of a product or a service
* Develop the context of a need for their product or service
* Define their target audience/customer
* Generate a company/organisation name
* sketch ideas for company logos.
 | * Students will have co-designed or developed a scenario in which they can start designing a website. It will include:
	+ A product or service
	+ A need for the product/service
	+ A customer/audience
	+ A company/organisation name

Students can provide reasons for their company/organisation name and need for website based on a proposed business case. |  |
| Identify and investigate factors influencing design in web design | **Extension (optional)*** Students explore [colour trends in different industries](https://color.adobe.com/trends) and make a portfolio of relevant examples
* Explore the history of brands and brand development.
 | * Students can explain the significance of various examples within portfolio and how it might affect their own design choices.
 |  |

### Week five

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| --- | --- | --- | --- |
| **Outcome** | **Teaching and learning** | **Evidence of learning** | **Adjustments and registration** |
| **Design thinking and user experience****Teacher note:** students need to learn how to identify and design for a target audience and user experience (UX). The theme for this week is: “we don’t design for browsers; we design for people”.* Select and incorporate content for multimedia presentations that is appropriate to the target audience
 | **Teacher**Using the [UX Design vs UI Design](https://www.youtube.com/watch?v=LWLRTIkRDqA) video contrast UX design with UI design. | Students can identify/describe examples of both UX and UI and distinguish between them. |  |
|  | **Teacher*** Provide examples of personas for students to model or select from.

**Students*** Using an example create a user persona (or up to three personas) on the provided template.
 | Students can clearly articulate the type of user they are designing for. |  |
|  | **Teacher*** Explain the [purpose](https://www.smashingmagazine.com/2014/10/improving-information-architecture-card-sorting-beginners-guide/) and demonstrate the process of card sorting.
 | Students engage in demonstration. |  |
|  | **Students*** Decide what content is applicable for the website
* Create a list of content topics
* Define appropriate labels for topics (which can be phrases or words)
* Categorise the content into three to five groups
* Construct cards (or use post-it notes) and organise the content based on the above categories and groupings
 | Students could photograph their cards or post-it notes laid out in order as evidence of the process. |  |
|  | **Students**Participate in a physical card sorting activity with another student or group taking note of how the tester would organise the content. Make any necessary changes. | Students engage with activity and may make changes to their website structure based on peer feedback. |  |
| Identify and investigate factors influencing design in web design | **Teacher*** Describe the structure of websites and outline key concepts of [good navigation](https://uxmag.com/articles/visual-design-and-usability-yellow-brick-road)
* Investigate the [validity of the 3-click rule](https://www.nngroup.com/articles/3-click-rule/) and survey students’ opinions.
 | * Students are familiar with the common website structure and can identify elements of good navigation.
* Students engage with the discussion.
 |  |
|  | **Students*** Use the groups of topics to plan a hierarchy and define the structure of the website.
* Layout and prototype a navigation scheme.
* Create a sitemap and document choices.
 | * The structure of the website will show evidence of design thinking consistent with previous activities and the content
* Students could photograph/scan any sketches as evidence of the process
 |  |

### Week six

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| --- | --- | --- | --- |
| **Outcome** | **Teaching and learning** | **Evidence of learning** | **Adjustments and registration** |
| **Structure, Style and Substance**Students need to clarify and refine content, both text and visual, within a clearly defined and logical structure.* Use and/or modify designs when completing projects
 | **Teacher*** Outline [page layout concepts](https://developer.mozilla.org/en-US/docs/Learn/Common_questions/Common_web_layouts) and demonstrate [how to construct wireframe diagrams](https://www.usability.gov/how-to-and-tools/methods/wireframing.html) to communicate significant components of the [page layout](https://webflow.com/blog/web-page-layout-101-website-anatomy-every-designer-needs-to-learn)
* Present [examples of page layouts](https://www.invisionapp.com/inside-design/10-website-layouts/).
 |  |  |
| Use and/or modify designs when completing projects | **Students**Sketch page layouts and [construct wireframes](https://whimsical.com/wireframes) for all different page types within the website. | Students will have produced wireframe diagrams which show evidence of design thinking consistent with previous activities and the content. The sketches should be annotated by students explaining function and layout. |  |
| Implement, develop or manipulate style guidesUse and/or modify designs when completing projects | **Teacher*** Explain how to make a [style guide](https://designmodo.com/create-style-guides/) which lists colour schemes, fonts, logos and image constraints
* Present [examples](https://blog.hubspot.com/marketing/examples-brand-style-guides) of style guides for students to model from.
 | Students can identify the elements of a style guide. |  |
|  | **Students*** Produce a one-two page document which defines their style guide
* Annotate the style guide to indicate the design choices.
 | Students’ annotations will indicate the reasoning behind choices they have made. |  |
|  | * Demonstrate using the [Hemingway app](http://hemingwayapp.com/) the calculated reading level of a range of sample text.
* Outline common text features used in webpages that serve as signposts for the reader, for example: breadcrumbs, navigation instructions and buttons.
 | * Students can name the reading level that body text should be written at
* Students can identify types of text that serve as signposts for readers on the web.
 |  |
|  | **Students*** Write content (copy) for their website.
 |  |  |
|  | **Extension (optional)**Compare search features of websites with good navigation design and intuitive interfaces. | * Students produce a written response assessing the pros and cons of both.
 |  |

### Week seven

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| **Outcome** | **Teaching and learning** | **Evidence of learning** | **Adjustments and registration** |
| **Image types**An introduction to the digital image concepts, common file types used on the web and the software used to create and edit them.* explore characteristics and features of digital graphics
* select and use specialist terminology in context
 | **Teacher*** Demonstrate the differences between bitmap graphics and vector graphics and where they are typically used
* Outline the characteristics of the [common file formats](https://university.webflow.com/lesson/image-file-types-elements) used on the web, for example: jpeg, gif, png and svg
* Define colour depth and [resolution](https://university.webflow.com/lesson/image-resolution-elements).
 | * Students can outline how vector images differ from bitmap images
* Students can recall the main characteristics and features of digital graphic types and formats used in web design.
 |  |
| select and use appropriate digital graphics software | * Outline the typical uses of various software, for example:
	+ [Adobe Photoshop](https://helpx.adobe.com/au/photoshop/get-started.html) – creating/editing bitmap images
	+ [Adobe Illustrator](https://helpx.adobe.com/au/illustrator/get-started.html) – creating/editing vector images
 | * Students select the correct software to suit the purpose.
 |  |
| select and use appropriate digital graphics softwareapply graphics production techniques | * Demonstrate how to perform basic operations in vector drawing software, for example:
	+ Drawing and modifying shapes
	+ Transforming shapes
* Use of type tools
 | * Students can use the software to perform basic operations.
 |  |
|  | Students:* Explore the software and perform simple activities creating vector images, for example:
	+ Logos
	+ [Icons](https://helpx.adobe.com/au/illustrator/how-to/icon-design.html)
	+ Buttons
* Text for headers.
 | * Students produce vectors graphics which are suitable for webpages.
 |  |
|  | **Extension (optional)**Discuss the advantages and disadvantages of bitmap and vector images | * Students can justify when one format is more suited to a task.
 |  |

### Week eight

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| **Outcome** | **Teaching and learning** | **Evidence of learning** | **Adjustments and registration** |
| **Lights, camera, action!**Students learn how capture digital images * select and use appropriate tools to generate digital graphics
 | **Teacher*** Outline the range and typical application of different digital cameras available, for example:
	+ Compact
	+ DSLR
	+ Mirrorless
	+ Mobile devices
	+ Sports cameras.
 | Given available options, students are able to select the most appropriate type of camera for the task. |  |
|  | * Demonstrate safe and correct use of digital cameras

If available, demonstrate the differences between different types of digital cameras, for example. DSLR and compact. | Students use equipment correctly. |  |
|  | * Explain the relationship between the three components of the exposure triangle and how these effect the amount of light hitting the camera’s sensor and its effect on capturing images.
 | Students successfully produce a series of photographic images demonstrating technical proficiency, camera-craft and the correct application/control of lighting. |  |
|  | **Students*** Generate digital images using available digital cameras and/or 2D scanner.
 | Students successfully produce a series of photographic images relevant to a design brief. |  |
|  | **Extension (optional)**Explore the range of settings available on different devices, including graphic file formats and resolution (e.g. DSLR camera – jpeg and sometimes RAW) | Students can access more settings on the equipment to achieve desired results. |  |
|  | Outline the function of CCDs used in digital cameras and 2D scanners. | Students can recall the function of CCDs. |  |
|  | Explain the relationship between sensor size, resolution and image quality/clarity. | Given a range of devices with different sensors, students can select the most appropriate type of camera for the task. |  |
| Apply appropriate lighting to digital graphics | **Teacher*** Outline the range and application of various lighting equipment, for example:
	+ Reflectors/diffusers
	+ Flashgun/Speedlight
	+ Hot shoe/off-camera
	+ Soft boxes
	+ Continuous light (now including LED panels)
	+ Studio strobe
 | Given its availability, students can select the most appropriate lighting equipment for the task and use it correctly. |  |
|  | Demonstrate safe and correct use of lighting equipment. | Students use equipment correctly. |  |
|  | * Experiment with lighting setups and camera settings to produce images with different desired effects, for example: Three-point (duration: 9:55).
 | Given a subject and lighting conditions, students predict the effect on image capture using available equipment and propose/adjust settings to optimise the quality of the image. |  |
| Compare and contrast contemporary industry processes, techniques, materials and equipment with classroom experiences | * Present some YouTube or LinkedIn Learning video clips which focus on studio lighting or professional photography gear and compare with classroom experiences.
 | Students can recognise and articulate the differences between industry and classroom experiences. |  |
|  | **Extension (optional)*** Explain/discuss the concepts of key light and fill light, and how-to setup light stands to achieve even lighting.
 | Students can identify and correct poor lighting setups. |  |
|  | Demonstrate the use of light metering to adjust exposure settings. | Students identify and adjust for poor lighting situations. |  |
|  | Compare studio lighting setups with outdoor lighting gear and discuss the constraints each scenario/setup needs to accommodate/adjust for. | Students can recognise and outline the differences in these situations and make necessary adjustments. |  |

### Week nine

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| **Outcome** | **Teaching and learning** | **Evidence of learning** | **Adjustments and registration** |
| The images generated/captured in the previous week can be used to demonstrate the skills and knowledge required to edit bitmap images and prepare them for use in a website.Select and use appropriate digital graphics softwareApply graphics production techniques | **Teacher*** Demonstrate how to perform basic operations in image editing software, for example:
	+ Resizing
	+ Changing colour depth
	+ Changing resolution
	+ Saving as a different file format
	+ Optimise for the web.
 | Students can use the software to perform basic operations. |  |
|  | **Students**Perform simple activities modifying images which make use of rescaling, changing colour depth and resolution, and saving in other file formats. | Students can assess and explain the impact on image quality and file size. |  |
| Explore characteristics and features of digital graphicsSelect and use specialist terminology in context | Use thinking tools (for example SWAT, PMI) to complete an analysis of the [main graphics formats](https://www.linkedin.com/learning/photoshop-for-web-design/image-types-for-the-web) used in web design (JPEG, GIF, PNG and SVG). |  |  |
|  | **Extension (optional)**Explain the relationship between colour depth, resolution and file size in mathematical terms. | Students are able to calculate the values for file size given the colour depth and resolution. |  |
| Select and use appropriate digital graphics software | List other image editing software, including online options and get students to evaluate the various options available. | Students can explain why they might/might not use Photoshop in favour of other software or online editors. Their responses should indicate a consideration of quality of finished product, processes and cost. |  |
| Apply graphics production techniques | **Teacher*** Outline essential tools used in Photoshop and demonstrate some basic editing techniques, for example:
	+ Selection techniques
	+ Use of layers (layer order) and opacity
	+ Masking and cropping
	+ Scaling/transforming.
 | Students can recall tools required and a sequence of steps to achieve basic editing techniques. Advanced students may be able to use a range of techniques to achieve the same effect/outcome and be adept at using keyboard shortcuts. |  |
|  | Demonstrate how adjustment layers work. | Students use adjustment layers when editing images. |  |
|  | **Students**Perform simple activities modifying images which make use of demonstrated techniques. | Students apply the techniques to generate suitable images. |  |
| Select and use specialist terminology in context | **Extension (optional)*** Explain what the difference between destructive and non-destructive editing techniques.
* Discuss the importance of using non-destructive editing software/techniques to improve workflows and retain image quality.
 | * Students can recognise and describe the processes which result in either destructive or non-destructive editing.
* Students can explain the benefits of using non-destructive editing techniques.
 |  |
|  | Deconstructing a finished image by analysing and describing a series of possible processes and techniques that could have produced the final image. | * Students demonstrate high level understanding through proposing possible steps and processes for how an image was generated.
 |  |

### Week 10

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| **Outcome** | **Teaching and learning** | **Evidence of learning** | **Adjustments and registration** |
| The application of common basic techniques is continued this week to enable the creation of suitable assets for use later in the web design topic. Typography is introduced and briefly explored in the context of web page design. The font used can have a huge impact on how the page is perceived or viewed.* Identify and investigate factors influencing design in web design
* Select and use specialist terminology in context
 | **Teacher*** Outline what typography is, and its relevance to web design.
* Define key terms in typography, for example:
	+ typeface
	+ font
	+ serif
	+ sans serif
	+ tracking
	+ kerning.
 | * Students can recall and use specialist terminology in context and articulate how typography is used differently in web from print.
* Students can recall main features of typefaces and identify the difference between serif fonts and sans serif fonts.
 |  |
| Apply design principles and processes when completing projects | Demonstrate the use of text tools in Photoshop (or chosen image editing software) and how to merge images and text. | Students are able to combine text into images. |  |
|  | **Students*** Explore and use additional software tools and perform more complex activities creating assets which may include:
	+ blended compositions
	+ blurring
 | Students demonstrate the use of more advanced techniques and use a broader range of tools to achieve more sophisticated results. |  |
|  | **Teacher and Students**Explore typography and the emotions that can be conveyed through different typefaces and colour. | Students can justify their choice of typeface and colour to complement the images or design of the composition. |  |

### Week 11

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| Outcome | Teaching and learning | Evidence of learning | Adjustments and registration |
| **Technical**The intent is to provide students with some contextual background to the practices and processes that are predominantly used by industry today and to some extent how they developed.* select and use specialist terminology in context
* compare and contrast contemporary industry processes, techniques, materials and equipment with classroom experiences
 | * Outline how the world wide web (WWW) works, including the processes of:
	+ client-server model
	+ web page requests
	+ DNS translation
	+ HTTP and HTTPS.
* Describe key hardware components, for example:
	+ desktop clients/mobile clients
	+ web servers
	+ routers and other networking equipment.
* Identify/describe key software components, for example:
	+ browsers
	+ plugins
	+ web server software.
 | * Students can demonstrate their understanding by describing the sequence of events that occur when fundamental processes like viewing a webpage in a browser are initiated.
* Students are able to describe the key hardware and software components and their functions using correct terminology.
 |  |
| discuss the impact of emerging technologies in the multimedia industry | **Teacher and students*** Explore/examine the development of internet technology over the last 50 years and its impact on society, for example:
	+ increase in bandwidth
	+ speed of computers
 |  |  |
| discuss the impact of emerging technologies in the multimedia industryselect and use specialist terminology in contextcompare and contrast contemporary industry processes, techniques, materials and equipment with classroom experiences | * Outline what National Broadband Network (NBN) is and how it works.
 |  |  |
| select and use specialist terminology in context | **Students*** Identify options for connecting devices to the internet, for example:
	+ ADSL
	+ NBN
	+ 4G/5G
* Research internet plans or website hosting options, collating data in a table.
 | Students can describe current/available technology and identify best value options. |  |
| compare and contrast contemporary industry processes, techniques, materials and equipment with classroom experiencesselect and use specialist terminology in context | **Teachers*** Compare traditional methods of creating webpages with the advent of content management systems (CMS), including the use of templates and platforms like Google Sites
* Discuss the ways webpages have previously been constructed, for example:
	+ Text editors
	+ WYSWIG editors (Adobe Dreamweaver)
	+ Modern editors
	+ Templates
	+ Websites like Weebly, Google Sites
	+ Content Management Systems (CMS)
 | Students recognise the different techniques used to create webpages and can justify their decisions when choosing to use a technology. This should include availability and cost of technology and its suitability to the task. |  |
|  | **Extension (optional)****Teacher*** Outline how other parts of the internet work, and the different protocols used
* Explain protocols used on the web, for example:
	+ HTTP/HTTPS
	+ TCP/IP
* Explain how TCP/IP addressing and DNS works
* Outline how dynamically scripted websites work
* Demonstrate database driven websites.
 |  |  |
|  | **Extension (optional)****Teacher and Students*** Explore how JavaScript frameworks work
* Construct a network comprising a webserver and clients
* Research static site generators
 |  |  |

### Week 12

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| Outcome | Teaching and learning | Evidence of learning | Adjustments and registration |
| **Know the code (Learn)**Students learn and use fundamental knowledge of HTML to create basic HTML documents (web pages). Students need to know the purpose of each document type:* HTML – content and structure,
* CSS – style or appearance
* JS - interactivity.
* create webpages using a range of techniques
 | **Teacher*** Define Hyper-Text Markup Language (HTML) as the standard language used to create documents for the web
* Using a basic HTML5 template, demonstrate the [structure](https://www.youtube.com/watch?v=U4nbKMJRVaw) and essential tags, for example:
	+ doctype
	+ html
	+ head
	+ body
 | Students will be able to create html files using the correct HTML5 compliant tags. |  |
|  | * Explain the [interrelationship](https://www.youtube.com/watch?v=w-kBRUXsuSQ) between the standard document file types used to make a webpage:
	+ HTML files
	+ cascading style sheets (CSS)
	+ JavaScript (JS)
	+ images and other assets like video
 | Students can describe how the various components contribute to the appearance and functioning of a webpage. Moreover, they can demonstrate this understanding when trying to resolve problems when webpages do not appear or function correctly. |  |
|  | * Demonstrate how to code HTML5 using either a text editor or WYSWIG editor (or use a free online system such as Codecademy).
 | Students can competently use a text editor or webpage editor. |  |
|  | **Students*** Create an example HTML5 file in a text editor or web design software like Dreamweaver (or use a free online system such as Codecademy).
 | Students create simple webpages with HTML5 markup. |  |
|  | **Teacher**Demonstrate how to create a directory structure and upload images and other asset types to assets folder/directory. | Students can follow and repeat this procedure independently. |  |
|  | **Students*** Gather and organise assets in preparation for building website.
* Create site in chosen authoring platform and upload assets to appropriate folder structure, for example:
* SiteFolder/Assets/Images
 | Students can independently upload assets to the chosen web authoring platform and organise them in a recognised structure. |  |

### Week 13

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| Outcome | Teaching and learning | Evidence of learning | Adjustments and registration |
|  | **Build it and they will come**There is no intention for students to create a website by hand-coding everything from scratch. Reflecting industry practice, students should be encouraged to modify and re-purpose existing templates and blocks of code. There are a range of suitable options for students to use in constructing a website, each with their own advantages and disadvantages. Options include:* Adobe Dreamweaver
* Google Sites
* Content Management Systems (CMS).
 | Students should document their design choices and processes in their project folio as evidence of their learning. |  |
| Create webpages using a range of techniquesUse and/or modify designs when completing projectsImplement, develop or manipulate style guides | **Teacher*** Demonstrate how to use functions of chosen web authoring platform, for example:
	+ page creation
	+ inserting links
	+ inserting images
	+ linking/embedding CSS.
 |  |  |
| Create webpages using a range of techniquesUse and/or modify designs when completing projects | **Students**Create webpages with chosen web authoring platform. | Students are engaged with activity and create webpages using skills previously demonstrated. |  |
| Implement, develop or manipulate style guidesUse and/or modify designs when completing projects | **Teacher*** Demonstrate how to build responsive webpages using an existing framework, for example:
	+ Bootstrap
	+ Foundation
 | Some students may not be able to independently achieve building a responsive webpage/website and require extensive scaffolding. |  |
|  | **Students*** Students apply **style guide created earlier** to create cascading style sheet (CSS) or make modifications to chosen framework templates, for example:
	+ external CSS
	+ override or customise Bootstrap.
 | Students would typically create or modify a Cascading Style Sheet (CSS). |  |
|  | Evaluate if more content is needed and create/author as necessary. | Students will evaluate the need for additional content or edit existing and make necessary changes. This reflective process should be documented in their project folio. |  |

### Week 14

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| Outcome | Teaching and learning | Evidence of learning | Adjustments and registration |
| Create webpages using a range of techniquesUse and/or modify designs when completing projects | **Students**Continue to build website with chosen web authoring platform. | Students are engaged with activity. |  |
|  | **Extension (optional)****Teacher*** Demonstrate the process of designing and building a form and/or buttons that are device agnostic/responsive.

**Students**Design and build a form and/or buttons that are responsive (function on different platforms). | * Forms add another level of complexity to responsive design and many students may not be able to achieve building a responsive form and require extensive scaffolding.
* Students might add a form to their website. However, it may not be fully functional without connection to backend code. The success and evidence of learning will vary depending on what functionality is on the authoring platform chosen and the time available.
 |  |

### Week 15

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| Outcome | Teaching and learning | Evidence of learning | Adjustments and registration |
| **Testing and Evaluating**Websites are evaluated in multiple ways. Questions to frame this discussion could include:* What are we testing?
* Did we achieve what we set out to do?
* Are users happy with the website?
* How will we know?

Evaluate the impact of design and work practices/processes on the quality of finished projects | **Teacher*** Outline the technical and non-technical aspects involved in [testing a website](https://www.guru99.com/web-application-testing.html), for example:
	+ Functionality
	+ Usability
	+ Compatibility
	+ Performance
	+ Security

[Accessibility](https://a11y.com.au/web-accessibility-testing-tools) could be part of usability or on its own.* Demonstrate the use of browser testing tools, for example:
	+ Modernizr
	+ Developer Tools ([Chrome devtools](https://developers.google.com/web/tools/chrome-devtools/speed/get-started))
* Demonstrate load-time and performance testing of a website with a range of tools, for example:
	+ [Lighthouse](https://developers.google.com/web/tools/lighthouse)
	+ [Test my site](https://www.thinkwithgoogle.com/intl/en-gb/feature/testmysite/)
	+ [Mobile-friendly test](https://search.google.com/test/mobile-friendly)
	+ [mobiReady](https://ready.mobi)
 |  |  |
|  | **Teacher and students*** Students rank the most important aspect and justify
* Outline the process of design review with peers and establish criteria for students to use.
 | Students engage with activity and make value judgements. |  |
|  | **Students*** Perform a range of website testing activities and document findings, for example:
	+ browser testing to identify differences in presentation
	+ using [validators](https://validator.w3.org/) to check for complaint code and accessibility.
 | Students will be able to demonstrate in their documentation testing and evaluation of their website. |  |
| Discuss the impact of emerging technologies in the multimedia industry | The first metric that people think about when considering testing websites is page load times.**Teacher*** Discuss the impact of increases in [Internet speed](https://assets.entrepreneur.com/article/an-accelerated-history-internet-speed.jpg) over the last 50 years, for example:
	+ bandwidth requirements of different media types
	+ streaming technologies
	+ wireless/mobile technologies
 | Students engage with the discussion. |  |
|  | **Extension (optional)*** Explore UX analytic tools, for example:
	+ [Google Analytics](https://analytics.google.com/analytics/web/provision/#/provision)
	+ [Siteimprove](https://siteimprove.com/)
	+ [heatmaps](https://www.crazyegg.com/snapshots)
	+ eye-tracking technologies.
 |  |  |

## Evaluation

Evaluation of learning activities should be an ongoing process that happens throughout the delivery of this unit. Teachers should document their evaluation of learning activities throughout the program. The space provided below is to evaluate the overall unit of work.

Prepare design and production folios to describe the management and processes undertaken in the production of practical projects