



## 289.101

### Introduction to Web Development

#### Aim

In this course, students will be introduced to industry standard web and mobile media platforms and authoring tools. Students will gain a creative and technical knowledge and understanding of media concepts and production processes essential to produce interactive media on multiple platforms.

#### Overview

Students will be introduced to site structure, web layout, HTML, CSS, JavaScript, the preparation of graphics for online media, basic server skills and collaborative working practices. The course will present the technical, social and historical background of online and mobile media to provide context to the topics. Students will gain practical experience in a variety of software tools and produce live web sites for desktop and mobile environments.

#### School of CMP

#### Semester 1 / 2021

#### Assessment 1 Submission

Thur, Apr 01, midnight (week 6)

#### Assessment 2 Submission

Thur, May 27, midnight (week 12)

#### Times & Venues

*Check Stream*

#### Course Coordinator

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#### Learning Outcomes

1. Demonstrate basic competencies in digital production tools and technologies required for producing content for web and other interactive online media. (Graduate profile: Virtuosity – Mōhio D1)
2. Apply techniques and processes in producing and manipulating media for the web. (Graduate profile: Virtuosity – Mōhio D1)
3. Carry out basic forms of technical investigation for developing production skills. (Graduate profile: Creativity – Toi C3)
4. Exercise skills in managing workloads and meeting deadlines. (Graduate profile: Autonomy – Mana E3)
5. Reflect and discuss own work and work of others in workgroups, discussions, critiques and presentations. (Graduate profile: Mātauranga – Understanding C2; Connectedness – Whanaungatanga E1)

#### Assignment 1 (formative)

You will build a personal portfolio website from scratch using the most basic web tools. The goal of the assignment is to become familiar with the underlying web technologies and to understand the core architecture and processes of the web.

The website will be published to a live server and provide a framework for showcasing your creative work. You will start by gathering a collection of your existing creative work and listing other work you are likely to produce this year. This will form the content structure upon which to base your website. The website should contain around 3 – 6 pages worth of content. However, this can be a one-page arrangement where the links jump to different sections of the same page (like the Singolo website); or 4 or 5 separate HTML documents linked together. If you feel you have no work to showcase, consider: some scenic vacation photography of yours; showcasing your crafts/hobbies; random doodles; Minecraft creations; some interesting projects you've completed; or even some poetry.

You will use GitHub Pages (<https://pages.github.com/>) to host your website.

During this assignment you will be introduced to usability concepts, content planning, and wire-framing. You will also become familiar with basic web technologies and techniques such as HTML, CSS, JavaScript, web servers, graphics for online use, and web typography.

#### *Tools:*

- Code editor (Brackets/Atom), Adobe Photoshop, GitHub
- HTML, CSS, JavaScript (optional)

#### *Submission instructions:*

- Website uploaded to your GitHub Pages repository
  - DO NOT INCLUDE psd/ai/hi-res artwork files.
- PDF document uploaded to Stream, containing your:
  - github.io URL;
  - planning (site structure document, wireframes, etc.);
  - documentation of sources, references, licenses, and resources you have used;
  - student name and student number.

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## **Assignment 2 (summative)**

In Assignment 2 you will work individually or in small groups (ideally teams of two, but no more than three) to produce a **responsive** website for a fictional company of your choice. The website must work at different screen-sizes (mobile, tablet, desktop). Like assignment 1, it will comprise 3 – 6 pages worth of content in all.

As an example, were you to select Futurama's *MomCorp*, your website may comprise a listing of the consumer and industrial products MomCorp produces (appliances, robots, etc.), how much they cost, and outlets at which they can be purchased. Here is a list of fictional companies to give you some ideas:

[https://en.wikipedia.org/wiki/Category:Fictional\\_companies](https://en.wikipedia.org/wiki/Category:Fictional_companies)

The assignment will build on the technical skills you have gained in Assignment 1. This time you will be required to produce a more impressive

display of your responsive web design, HTML & CSS, and JavaScript (optional) skills.

You are also encouraged to explore topics beyond the course material, such as server-side scripting (PHP), SASS/SCSS, JavaScript libraries, etc.

*Tools:*

- Responsive web design, HTML, CSS, JavaScript (optional)
- Any other web technologies you may choose

*Submission instructions:*

- FTP your website to your cmp.ac.nz web server account
  - DO NOT INCLUDE psd/ai/hi-res artwork files.
  - **Your websites will be removed from the web server after about a month, so ensure that you have your own backup.**
- PDF document uploaded to Stream, containing your:
  - website URL;
  - planning (site structure document, wireframes, etc.);
  - documentation of sources, references, licenses, and resources you have used;
  - the names and student numbers of your group members.

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**The two assignments are assessed against the following criteria:**

*Assessment Criteria:*

1. The assignment demonstrates the proficient use of HTML and CSS (possibly some JavaScript) to produce a website. (Learning Outcome 1)
  2. The assignment exhibits the creative use of web media, including good content structuring, layout, graphic design, and typography. (Learning Outcome 2)
  3. The assignment reveals independent research and self-guided inquiry into web development and design techniques. Sources and resources documented. (Learning Outcome 3)
  4. Timely hand-ins and completion of weekly tasks. Where applicable, professional approach to working in a team. (Learning Outcome 4)
  5. You exhibited active participation in class and presentations, providing constructive criticism. (Learning Outcome 5)
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## Weekly schedule

(See Stream for updates and more detail: <http://stream.massey.ac.nz>)

### **Week 01 – Introduction to the Course and HTML**

#### *Lecture:*

- Introduction to lecturer/tutor and course
- How the Web works
- HTML overview

#### *Workshop:*

- Web development tools
- HTML syntax
- Basic text formatting

### **Week 02 – Best Practices and Version Control**

#### *Lecture:*

- Brief history of the internet
- The semantic web
- Version control and Git overview

#### *Workshop:*

- GitHub
- Styling HTML content
- HTML links and images

### **Week 03 – Styling Fundamentals**

#### *Lecture:*

- Design process
- Layout and composition
- Colour

#### *Workshop:*

- CSS fundamentals
- CSS Box model

- Styling a website

## **Week 04 – Human Computer Interaction and Layout**

### *Lecture:*

- Brief history of user interfaces
- HCI
- Principles of interaction design

### *Workshop:*

- CSS layout
- CSS box-sizing
- CSS layout tasks

## **Week 05 – Typography and Visual Identity**

### *Lecture:*

- Typography overview
- Web typography
- Visual identity

### *Workshop:*

- CSS fonts
- CSS media queries
- Creating a website from a template

## **Week 06 – Assignment 1 Assistance**

*This lecture and workshop time is dedicated to assistance with assignments*

## **Week 07 – UX Introduction**

### *Lecture:*

- Key ideas, goals, requirements
- Behaviour
- Research

### *Workshop:*

- UX software workflow
- Manipulating elements and managing assets
- Prototypes and previews

## **Week 08 – UX Behaviours & Prototypes**

### *Lecture:*

- Designing behaviour
- Design patterns
- Analytics

### *Workshop:*

- Photoshop artboards and layers
- Smart objects
- Clipping masks

## **Week 09 – Software Licenses and CSS Frameworks**

### *Lecture:*

- Copyright, patents, trademarks
- Open-source and Proprietary
- Creative Commons

### *Workshop:*

- Bootstrap intro
- Matching media queries with Bootstrap break-points
- Icon fonts

## **Week 10 – Development Methodologies and JavaScript Intro**

### *Lecture:*

- Development methodologies
- Waterfall and Agile
- MVPs and prototypes

### *Workshop:*

- JavaScript basics
- HTML DOM

- CSS positioning

### **Week 11 – Control Flow**

*Lecture:*

- Guest lecture (TBC)

*Workshop:*

- Booleans
- Comparative and logical operators
- If statements

### **Week 12 – Assignment 2 Assistance**

*This lecture and workshop time is dedicated to assistance with assignments*

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### **Resources and Readings**

*Check Stream weekly updates*