

Web Development (CCO4001-20)

Lecturer :Lavanya Mohan

Key Information

**Credits**

Successful completion of Web Development awards 20 credits.

**Session Times**

**Start Date : 10.02.2025**

Monday 10.00AM to 1.00PM

**Summative Assessment deliverables**

S1. Set Exercises (40%): X

S2. Web Development Project (60%): X

**Delivery Team**

Lavanya Mohan

1. Module Overview

The web is rapidly becoming the go-to environment for deploying and using software. We rely on web technologies to manage our work and social lives, collaborate with like-minded people, experience art and be entertained. Anyone entering the field of computing should have at least a basic understanding of web development, and be able to identify the key opportunities and limitations that web-based software presents.

This module focuses on the creation of online interactive experiences. You learn the key languages of web development (HTML5, CSS, JavaScript) - gaining a practical understanding of how they handle content structure/styling and user interactivity. We assume little to no prior experience of web development. You learn from the ground up, working through coding challenges and creative briefs that help embed new techniques and best practice into your programming ‘toolkit’.

Topics covered include:

* Text
* Images
* CSS Styling
* Audio, Video & Embedded Content
* Structure and Semantic Markup
* Navigation
* CSS Animation
* JavaScript Basics
* HTML5 Canvas Basics
* Coding Conventions and Troubleshooting

2. Key Advice

Programming is a critical element of your degree that features across the course. It is important that you put the time into understanding all concepts introduced during seminars and lab sessions.

That said, don’t be disheartened if you find you are struggling initially. Programmers will tell you that there is a ‘click’ point in coding where you move from sheer confusion (about programming logic, syntax etc), to a clearer understanding of its purpose and its implementation. When that point comes, your learning will accelerate naturally and you will gain a great deal of confidence. Just stick at it…

3. Schedule

|  |  |
| --- | --- |
| Teaching week | Session Focus |
| 1 | Introduction to HTML and CSS |
| 2 | Links and navigation |
| 3 | Images |
| 4 | Page layout I |
| 5 | Page layout II |
| 6 | Embedded content basics |
| 7 | JavaScript basics |
| 8 | JavaScript to control embedded content |
| 9 | HTML5 Canvas API - Introduction |
| 10 | HTML5 Canvas API - Drawing |
| 11 | HTML5 Canvas API - interactivity |
| 12 | CSS transitions and animations |
| 13 | Assessment workshop |

4. Assessment

Your learning is measured via a mix of formative and summative assessments that occur across the course of the module. Summative assessments contribute to your module grades whereas formative assessments help you develop your skills. All assessment types are non-combative, and should be seen as an opportunity to identify areas in which you need more practice.

There are 2 summative assessments that contribute to your module mark.

**Summative Assessment**

|  |  |  |
| --- | --- | --- |
| Summative Assessment | Module Contribution | Deadline |
| S1. Set Exercises | 40% | tutor will be sharing the deadline date for your assessments |
| S2. Web Development Project | 60% | tutor will be sharing the deadline date for your assessments |

**Set Exercises**

Develop solutions to a series of exercises that will test each of the fundamental web development techniques introduced through the course of the module. This assessment consists of staged deadlines throughout the module.

**Web Development Project**

Design and build an interactive experience using web technologies. This submission must be supported by a development document of 1,000 words.

**Submission**

Please refer to guidance on assessment briefs.

Deadlines for assessment must be respected. Late work is capped as per university procedure at 40% unless an extension is approved.

5. Intended Learning Outcomes (ILOs)

Web Development has a number of learning outcomes that are measured by summative assessments. Do familiarise yourself with the outcomes detailed below.

|  |  |
| --- | --- |
| Learning Outcome | Assessment |
| *By successful completion of the module, you will be able to demonstrate:* |  |
| The application of HTML5 and CSS to create media-rich artefacts that are deployed online. | F1, S2 |
| An adherence to coding conventions that ease the review, maintenance and debugging of web applications. | F1, S1, S2 |
| An ability to deploy computational thinking to select and apply appropriate technical strategies for addressing a web development problem. | S1, S2 |
| An ability to discuss the technical implementation of a web project and reflect critically on the results. | S1, S2 |

6. Learning and Teaching Methods

Web Development operates on the principle of ‘learning by making’. Teaching time includes short code demonstrations (to present new techniques), coding challenges, prototyping sessions (to test ideas) and ‘crits’ (to evaluate work). Coding challenges and longer-running projects are undertaken both individually and in small groups.

**In Class**

Online Lectures:

* Give a clear and comprehensive introduction to the topics covered in the module.
* Provide practical demonstrations of key techniques related to Web Development.
* Embed algorithmic thinking and logic-level problem solving.

Workshop sessions:

* Apply newly learned coding techniques to technical and creative briefs / problems.
* Re-cover or add detail to topics introduced in online lectures.
* Include group-based activities (discussing examples, problems etc).

**Assessments and Feedback**

Your learning is supported by formative and summative assessments (described in section 4). Feedback on your work is provided in a number of ways:

* Written feedback on summative assessments via Turnitin
* Verbal feedback from tutors in class
* Peer feedback on formative assessment in class

Please ensure that you are aware of your assessment deadlines and that you know how to find your grades and feedback via Turnitin.

**Individual Study**

In Web Development you encounter several languages that need to work together. This can be daunting at first, but because of the visual nature of HTML5 you soon get to grips with it. Alongside class teaching and assessment preparation we recommend that you set yourself some mini projects to keep your newly acquired knowledge fresh. Ask your tutors for advice on what to attempt.

7. Learning Resources

**Minerva - Virtual Learning Environment**

Module resources, assessment briefs and module announcements will be accessible via Minerva. It is crucial that you become familiar with navigating Minerva and visit it regularly.

**Useful Reading**

Duckett, J. (2014). HTML 7 CSS: design and build website (e-book). John Wiley & Sons

Sarris, S. (2013). HTML5 Unleashed (e-book). Sams Publishing.

Grant, K. J. (2018). CSS in Depth. Manning.

Brown, E. (2015). Learning JavaScript: JavaScript Essentials for Modern Application Development (e-book). O’Reilly.

Kantor, I. (2007-). The Modern JavaScript Tutorial. (e-book: <https://javascript.info/>).

Simpson, K. (2020). You Don't Know JS Yet (book series) - 2nd Edition. (e-book: <https://github.com/getify/You-Dont-Know-JS>).

**Online Help**

LinkedIn Learning courses (free institutional access):

* HTML Essential Training with James Williamson
* CSS Essential Training (1 and 2) with Christina Truong
* Learning HTML5 Canvas with Joe Marini
* Javascript Essential Training with Morten Rand-Hendriksen

W3Schools Online Web Tutorials

<https://www.w3schools.com/>

MDN Web Docs

<https://developer.mozilla.org/en-US/>

CSS-Tricks

<https://css-tricks.com/>

Please refer to Minerva for links to relevant Linkedin Learning courses and videos.

**Technical Tools**

Visual Studio Code IDE (cross-platform, free)

<https://code.visualstudio.com/>

Atom IDE (cross-platform, free)

<https://atom.io/>

Note: We use Windows computers in seminars and workshops, however you are welcome (and encouraged) to use your own laptop computers. The standard editor we use for web development is Visual Studio Code. Visual Studio Code is cross-platform and will work on both Windows and OSX devices.

**Everyday Equipment**

You should ensure that you have the following items available at each teaching session:

* Removable storage (e.g. USB drive)
* Your student ID card
* Login details for your MLS
* Pens and paper

You are encouraged to bring laptop devices into sessions to work on. Do however ensure that you have the relevant software for the module installed in advance (ask your tutor for details) and a working power supply.

8. Rules and Requirements

All essays and reports must conform to university styling and submission guidelines. They must:

* Be word-processed using a conventional font and size (e.g. Times New Roman, 11 or 12) and 1.5 or double line spaced on single-sided paper
* Contain appropriate in-text citation that supplies an accurate list of references
* Employ the [Harvard system](https://www.bathspa.ac.uk/library/researching-and-referencing/) of referencing. Please refer to <http://www.citethemrightonline.com/> as a useful resource for referencing
* Be precise in spelling and paragraphing

**Marking Criteria**

Marking criteria are the guidelines by which we grade your work. You should try to familiarize yourself with these guidelines as they give a clear indication of what we are looking for when marking.

Marking criteria for each of the assessments listed above is provided within their respective assignment briefs. These can be found on Minerva.

**Academic Misconduct**

It is essential that you do not draw upon or duplicate previously submitted materials or employ materials derived in whole or in part from undisclosed sources, such as the web. Proven cases of plagiarism (passing off material produced by others as your own work or the whole or part use of material not sourced) could lead to disqualification.

If in doubt, ask.

Unacceptable academic practice, particularly in assessment, is known as Academic Misconduct. Academic misconduct may take a variety of forms, which cannot all be covered in detail here, but the most common are cheating in formal examinations and the plagiarism of coursework. Others include collusion with other students for the production of written work, impersonation in examinations, or submission of fraudulent mitigating circumstances evidence. The penalties for academic misconduct are severe and if students are in any doubt about what constitutes acceptable academic practice they must consult their tutors for advice.