#CI435

Lecture 1

Introduction to web development

Introduction

- **Module leader** – Jennie Harding / Cockcroft 522 / jh1033@brighton.ac.uk

- I work three days per week (Tue, Wed, Thu).

This lecture will cover…

- How the module is assessed
- About CI435
- Fundamentals -
  - Today's web - responsive web design
  - Web standards – what are they and why?
  - Standards-compliant HTML and CSS
- Practical work - Induction and Week 1 lab tutorials

About CI435 - assessment

You have **2** assessments:

SEMESTER 1 COURSEWORK – 50% of module mark

- Create a 3-page **responsive** website, written in HTML (**HTML5 doctype**) and styled with CSS stylesheets; test and publish on the *Brighton Domains* web server
- Coursework will be supported in the lab classes
- Hand in coursework **FRIDAY, JANUARY 15, 2021**
- I will hand out this assessment **next week** and tell you in detail what you have to do to pass

About CI435 - assessment

SEMESTER 2 EXAMINATION – 50% of module mark

- Questions are based mainly on practical exercises carried out in semester 2 lab classes and written up in a digital workbook
- Students can print the workbook to bring to the exam
- Students have to get a threshold mark of **30%** or above for both the coursework and the examination to pass the module. The **aggregate mark** for both assessments must be **40%** or above to pass.
- You have to pass CI435 to pass the first year

About CI435

- **Semester 1** – standards-based, **static** web pages
  - Pages written in **HTML** (**structure** and **content**) and **CSS** (stylesheet controlling **presentation**)
  - Responsive web design (RWD) – making websites that display well whatever device a user is viewing them on
- **Semester 2** – client-side scripting for **interactive** web pages
  - The document object model (DOM)
  - JavaScript

TEACHING PLAN SEMESTER ONE 2019-2020 (also on MyStudies)

Teaching Week No	Week Beginning	Topic
1	05/10/2020	Introduction To Web Development
2	12/10/2020	HTML Basics Summative (final) Assessment Out
3	19/10/2020	HTML document structure and hypertext
4	26/10/2020	Cascading Style Sheets CSS
5	02/11/2020	CSS box model and measurement
6	09/11/2020	RWD 1: Introduction to Responsive Web Design Formative (development task) Assessment Out
7	16/11/2020	RWD 2: Flexible Media Formative Feedback
8	23/11/2020	RWD 3: Responsive Layout Formative Feedback
9	30/11/2020	HTML and CSS forms Formative Feedback
10	07/12/2020	Testing and Evaluation
11	14/12/2020	Catch up / Assignment Focus
Sat 19 Dec 2020 to Sun 10 Jan 2021		Christmas and New Year Holiday
12	11/01/2021	Assignment Focus Assignment Hand In: Friday 15 Jan 2021 15:00h [will receive feedback within 20 working days]
Rev Week	18/01/2021	Assignment Focus (extension and late hand ins)

Learning resources

- HTML and CSS develop so rapidly that text books are never fully up to date
- Best reference and learning source:
  MDN (https://developer.mozilla.org/en-US/docs/Web/HTML)
- The best learning resources are on the web – there will be guidance each week about where to look
- Do your own independent learning – write about this and reference sources in the *Learning Journal* page of your website
- Students have free access to LinkedIn Learning (formerly lynda.com) video tutorials.
  Have a look here to get started:
  https://staff.brighton.ac.uk/is/training/Pages/Lynda-start.aspx

If you want a basic HTML/CSS book…

- *HTML & CSS: Design and Build Websites* by Jon Duckett. 2012.
- Book website with sample chapter - http://www.htmlandcssbook.com/
- Like most beginner text books *this does not cover responsive web design,* but it's a good introduction to basic HTML and CSS for beginners
- Many copies in the library

Your starting point

- Most students fall into one of these sets –
  - *Beginners* – everything to learn
  - *Students* who have learned web development at school/college to different levels
  - *Students with more experience* who know about responsive web design (RWD)

… some of you may have stuff to re-learn as we teach an up-to-date approach to web dev, which *may* be different from how you have been taught before

Teaching method – semester 1

- We do not assume any prior knowledge of website development, HTML, CSS or JavaScript
- Taught through lectures and lab workshops, with online tutorials - you can study at your own pace
- Those of you who have experience – don’t assume that you won't learn anything this semester, as our approach to website development may include new techniques – such as those associated with RWD
- Lots of new stuff to learn as **HTML5** and **CSS3** standards are evolving rapidly

20+ years is a long time on the web

- University of Brighton website in **1998**
- University of Brighton website today
- What are the big differences?
- …

Using the web today

NFL Mobile commercial https://youtu.be/qn7RfQU1MJg

20 years is a long time on the web

What are the big differences?

- Changes in technology – new devices, screen widths and ways to interact with media
- Changes in the way the web is used to provide services and support organisations
- Changes in **user experience** + expectations
- Changes in the role(s) and skills of the web team
- Leading to changes in the ways we design and develop for the web
- Change in where **content** comes from

Responsive web design

- Users are using devices with different screen widths – mobile, tablet, laptop, widescreen TV
- In many contexts – street, home, work, transport *etc.*
- This means we have to design **responsive** websites that can be accessed by anyone, anywhere, on any device…
- …and which provide the same level of information, functionality, entertainment and user experience (UX)

Development of web standards

- World wide web invented in **1989** by computer scientists – **Sir Tim Berners-Lee** - to share scientific documents over networks
- **1993** onwards – **web browsers** had their own, competing standards and rendered **HTML** - hypertext markup language - pages differently
- The first browser wars – between Netscape and Microsoft's Internet Explorer
- Chaos ensued - developers had to make different website versions for different browsers, until …

Development of web standards

- **1994** onwards - development of web standards by the World Wide Web Consortium – the **W3C**
- Writing web pages in standards-compliant HTML and CSS is good because –
  - A website will display consistently on any standards-compliant browser, platform and device
  - People using older browsers, text only browsers (Lynx) and screen readers (speech) – possibly because of a disability - can still access web page content
  - Code is easier to read and change – saving time and money
  - Search engine rankings are improved

Standards-compliant HTML document

```
<!doctype html>
<html lang="en">
<head>
<meta charset="UTF-8" />
<title>Home page</title>
</head>
<body>
    <p>Hello world</p>
</body>
</html>
```

Doctype declaration – for HTML5 standard

Main **language** of the document

Document head – unicode character set http://en.wikipedia.org/wiki/UTF-8 and **page title**

Document body – content marked up with HTML **tags** displayed on page

Standards-compliant browsers

- HTML – written for both human users and **browsers**
- A web browser is a powerful software application that retrieves and reads HTML, CSS files *etc.* and **renders** the web page
- In the labs we have –
  - Chrome, Firefox, Internet Explorer (IE) and Opera
  - Chrome and Mozilla FireFox are the best development browsers as they include developer tools - Chrome DevTools, Firebug developer toolkit
  - Older versions of IE (6, 7) were not standards compliant

Web standards

- Web standards specify the '**syntax**' and '**semantics**' of web markup languages such as HTML and CSS …
  - **Syntax** = format and rules of use
  - **Semantics** = meaning
- **HTML markup -**

  This is well-formed markup

- **Display on browser page –**

  This is **well-formed** markup
- **Syntax** – tags are lowercase; tags are explicitly closed (with /); tags are nested correctly (like grammar rules)
- **Semantics** – tags mark up text in a **meaningful** way –
  - ** ** = a **paragraph** of text
  - **** = text it marks up has **strong importance** shows as bold

Web standards

- Separation of content and presentation –
  - **HTML** markup specifies the **structure** of the content of a web page in a meaningful way
  - HTML should **not** be used to define how a page should be displayed – presentational tags from earlier versions of HTML are no longer used*
  - *E.g.* ** ** centre text, **<u>** underline, **<font>** font change
  - Browsers still recognise these obsolete standards – meaning that old websites still display as intended; web standards are 'backwards compatible'

*table border week 3 – we do put style into table in html, just so you get a border and can see table – should remove it once we start css

Web standards

- Separation of content and presentation –
  - **CSS** is the language that specifies how the content should be **presented** by a browser
  - CSS stylesheets are linked from the head of the HTML document that they style

```
<link href="style.css" rel="stylesheet" type="text/css" />
```

  - If presentation is defined *only* in a CSS stylesheet it is much easier and quicker to change the way that an entire website is styled

Finally, what tools will you use?

- In the labs we have –
  - **Notepad++** - a free, open source text editor
  - **Brackets** – a free, open source text editor produced by Adobe (integrates with other Adobe software)
  - Adobe **Dreamweaver** Creative Suite
- You can use whichever tool you like – we are teaching HTML and CSS, not how to use a software package or tool
- If you use Dreamweaver please use the **code** or **split** view – not the drag and drop design view – as it is important that you learn how to hand-code HTML and CSS correctly
- These are *not difficult* languages to learn

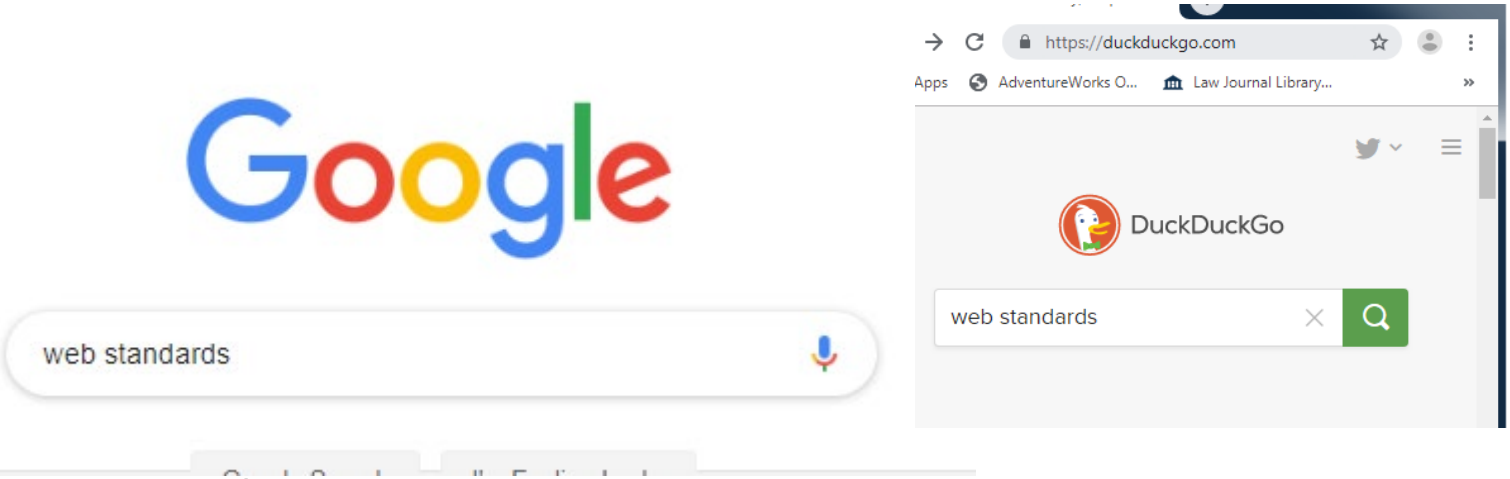
Lab tutorials

- Before the next lecture you should have completed 2 tutorials
- **Lab induction** – locating your **Web** workspace on the **Brighton Domains** web server* and publishing a test web page that can be viewed online, to check that everything is working OK
  - Please be patient if things don't work in the first week – sometimes we need to sort out your user settings with IT dept
- **Lab tutorial Week 1** -
  - Choosing which tool to use – Notepad++ *etc.*
  - Creating a basic HTML web page with the HTML5 doctype declaration
  - Linking 3 pages to form a *very* basic website
- Tutorials are online – links are on studentcentral CI435 area

* *May have been completed during Welcome Week Taster session*

This week's independent learning*

- Find out about "web standards" and the W3C*



- History of the web http://webfoundation.org/about/vision/history-of-the-web/
- LinkedIn Learning HTML5 videos

**HINT: each week you should do some independent learning to write about in your Learning Journal- the assessment that will be introduced next week*