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| MODULE PROFORMA | | |
| Full module title: Web Design and Development | | |
| Module code: | Credit level: 4 | Length: 1 Semester |
| UK credit value: 20 | ECTS value: 10 | |
| College and School: College of Design, Creative and Digital Industries; School of Computer Science and Engineering | | |
| Module Leader(s): Janani Harischandra | | |
| Extension: | Email: | |
| Host course and course leader: BSc Computer Science | | |
| Status: Core - BSc Computer Science, BEng/MEng Software Engineering, BSc Business Information Systems | | |
| Subject Board: COMENG | | |
| Pre-requisites: | Co-requisites: | |
| Study abroad: | | |
| Special features: | | |
| Access restrictions: | | |
| Are the module learning outcomes delivered, assessed or supported through an arrangement with an organisation(s) other than the University of Westminster. No | | |
| Summary of module content  This module introduces web technologies and covers theoretical and practical concepts of web development. It covers a variety of commonly used Internet programming languages. Students will gain practical experience of Web page development, and will be expected to write programs and Web pages conforming to given guidelines. | | |

**Learning outcomes**

By the end of the module the successful student will be able to:

LO1 Utilise a text editor to create several linked HTML documents, following certain style guidelines and satisfying a simple specification;

LO2 Identify and apply how to separate the structure, behaviour and presentation of web documents;

LO3 Incorporate and develop JavaScript to create interactive documents;

LO4 Work in a group, with each individual having a distinct role and tasks, to produce a common Web site;

LO5 Demonstrate a good level of knowledge and understanding of website development for a given environment and context.

**Course outcomes the module contributes to**

BSc Computer Science L4.1 L4.4 L4.7

BEng/MEng Software Engineering L4.1 L4.4 L4.7

BSc Business Information Systems L4.1 L4.2 L4.3 L4.4 L4.6

**Indicative syllabus content**

* + - **Overview of the Internet.** The logical structure of the Internet; domains and URLs. Hypertext concepts: documents and links. Browsers. Web file system structure (public\_html, directory and file permissions). Tools for file transfer. Classic http request model vs asynchronous data retrieval.
    - **Hypertext Markup Languages (HTML5, CSS3, XML, SVG).** Creation of hypertext documents using the current HTML standard. HTML tags: text, headers, hyperlinks, in-line images, lists, tables and forms. Get and post form methods. XML document and standard. Cascading Style Sheets (CSS). Marking up graphics with Scalable Vector Graphics (SVG).
    - **Client-side scripting.** Creation of interactive Hypertext documents using a scripting language such as JavaScript. Syntax for data types and control statements. Handling Events: mouse-based events, document-based events. Built-in objects: window, string, form.

**Teaching and learning methods**

Students attend a lecture (2 hours) and a practical tutorial (2 hours). The lectures include practical demonstrations of program development. Concepts, features and techniques are demonstrated by developing live example code using utilities running on a browser. Students are provided with a set of practical programming exercises to be completed both during and outside the scheduled tutorial times. Immediate feedback on proposed solutions to the exercises is provided in the tutorials with discussion of problems. A basic protocol for group working is presented. In addition, the module team provide a range of additional online help to support learning. These include practice quizzes, interactive lecture notes, multiple choice questions and videos.

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| **Activity type** | Category | Student learning and teaching hours\* |
| Lecture/Webcast lecture | Scheduled | 22 |
| Seminar | Scheduled |  |
| Tutorial | Scheduled | 22 |
| Project supervisor | Scheduled |  |
| Demonstration | Scheduled |  |
| Practical Classes and workshops | Scheduled | 12 |
| Supervised time in studio/workshop | Scheduled |  |
| Fieldwork | Scheduled |  |

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| External visits | Scheduled |  |
| Work-based learning | Scheduled |  |
| **Total Scheduled** |  | 56 |
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| Placement | Placement |  |
| Independent study | Independent | 144 |
| **Total student learning and teaching hours** |  | 200 |

\*the hours per activity type are indicative and subject to change.

**Assessment rationale**

An extended coursework exercise with milestone submissions and online exercises will allow students to first develop and demonstrate competence in the basic skills required for constructing simple Web pages and/or interactive web pages with JavaScript, and then a write substantial Web site as part of a team, following a given specification. The coursework will be completed both during and outside tutorials with each group member having a distinct role and tasks. Students will also be required to discuss their contributions in a report. (Learning outcomes 1-4).

A written examination will give the students the opportunity to demonstrate the depth of their knowledge in relation to the web technologies taught, and their ability to write interactive web pages on paper in a controlled and time-constrained environment. (Learning outcome 5).

**Assessment criteria**

Students are going to be assessed on the following criteria:

* + - Coursework assignment: Students are expected to demonstrate their understanding and ability to design and implement a Web site as part of a group and complete allocated tasks using the languages taught. In addition, students will discuss contributions in a report to demonstrate a thorough knowledge of issues related to the solution, compliance with the client expectations and be able to describe the file architecture and organisation of the website. Each group will present their solution during a tutorial session.
    - Examination: Students are expected to demonstrate their knowledge of web development and the details of the different languages taught and apply this knowledge to client-side web development in a given context. A pass level would represent the ability to demonstrate a basic understanding of the subject. For higher grades, the student shall be expected to ensure correctness of the proposed solution, apply good coding standards and demonstrate a high level of understanding and complement the taught material with that gained by independent thought and study.

**Assessment methods and weightings**

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| **Assessment name** | **Weighting**  **%** | **Qualifying mark %** | **Qualifying set** | **Assessment type (e.g. essay, presentation, open exam or closed exam)** |
| *Group coursework* | *50* | *30* |  | *Group Coursework* |
| *Exam* | *50* | *30* |  | *Closed exam* |

**Synoptic assessment**

None

**Sources**

Resources will be available via Blackboard Virtual Learning Environment. This section will be updated every year with the most up to date reading list.

**Essential reading**

Duckett, J. (2011), HTML & CSS, Design and Build Websites, Wiley.

Duckett, J. (2014), JavaScript & jQuery, Interactive front-end Web development, Wiley.

Garrett, J.J. (2010), The Elements of User Experience: User-Centered Design for the Web and Beyond (Voices That Matter), 2nd ed., New Riders.

**Further reading**

Weinschenk, S. (2011), 100 Things Every Designer Needs to Know About People, New Riders.

Burks, M.R., Lauke, P.H. and Thatcher, J. (2010), Web Accessibility: Web Standards and Regulatory Compliance, Springer.

Beaird, J. (2010), The Principles of Beautiful Web Design, 2nd ed., SitePoint.

**Link to the online reading list**

[https://rl.talis.com/3/westminster/lists/D1B9F37D-B76F-B29D-F1B7-CDD2D9800585.html](https://rl.talis.com/3/westminster/lists/D1B9F37D-B76F-B29D-F1B7-CDD2D9800585.html?lang=en-US)