Web Development for Business

Module guide

2016/2017

Module Title: Web Development for Business

Module Code: BB5104 / BB6205

Level: 5 / 6

Module availability: This is a level 5 or level 6 module, and assumes that students have completed one of the level 4 maths and IT modules.

Lecturer

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The module is delivered through weekly three hour lectures and labs.

Aims And Objectives

The way that computer applications are created, distributed and used has changed dramatically since the popularisation of the World Wide Web. The module is designed to introduce students to analysing, designing and implementing server-side applications that run using a combination of browser, server-side scripting and database technology.

In the sessions we will explore

- Using UML to analyse a problem domain and to develop an appropriate solution
- Using CASE tools to assist in the development and implementation process
- the basic architecture of a server side application, involving the server side language PHP.

Students will learn the 3-tier approach to application layering, using presentation, application and database logic to build effective, robust and maintainable applications.

Students will gain practical, hands-on experience of building web applications using a web server and a server-side programming language. Students will structure their work using semantic HTML, CSS and templates in PHP to emphasise the importance and advantages of using web standards.

Learning Outcomes
By the end of the module students should be able to

- analyse and design a small system using UML
- understand the basic principles of object-oriented software development
- understand the similarities and differences between the object-oriented and relational models, and effectively address the interface between the two
- design and construct appropriate Web-based applications
- understand how Web-based applications can function effectively

Approach to teaching and learning
The course will consist of weekly lectures, tutorials and laboratory sessions.

Both staff members have office hours every week when students can ask for further help – we also encourage students to drop by whenever we are in our offices to get further assistance if required.

Due to the experiential nature of the learning on this programme, and the importance of professional development enabling students to develop practical skills, learn from and interact with others, attendance is compulsory. Any students not attending a minimum of 80% of their timetabled sessions will be at risk of academic failure or termination from the course. Attendance will be monitored in a number of ways, including a range of in-class assessments, engagement with clickers during class, use of the identity cards for room entry and also traditional paper registrations where appropriate. Students MUST notify their course administrator as soon as possible if they are unable to attend due to ill health or any other reason. For prolonged illnesses the mitigating circumstances procedure must be followed.

Assessment
Students will be assessed four time as follows:

- Teaching period one in-class test (15%)
- Individual programming coursework (35%)
- Teaching period two in-class test (15%)
- Individual written coursework (35%)

There are two in-class tests in the module, which are scheduled for (typically) the fourth week of each teaching period. These will be 75 minutes long, will be open-book and require you to write small pieces of code.

The first piece of coursework will involve handing in a logbook containing activities and exercises from teaching period 1. This will be handed in early in teaching period 2 and will be followed by the second coursework which is in the form of a report, focussing on the UML design aspects of the course.

Much more detail about the nature of each of these assessments is published on the module website, including dates, the specifics of each assessment and guides to each one. You will receive feedback on your work within 20 days of the hand-in date. Please ensure that you read your feedback carefully, not just your mark. Feedback is designed

to help you with future work, including on other modules. If you are unsure about how to make the most of your feedback on a particular assignment, please ask us for further explanations. If you are still unsure, or feel you are not making improvements across a range of modules, discuss this with your personal tutor.

The best way to avoid academic misconduct or plagiarism is to use your own words, do not cut and paste from other work, and to ensure that you reference properly the sources you have used in your assignment. There is help available from the library and online, including a range of videos such as those given below:

http://www.youtube.com/watch?v=1yYf8AihndI
http://www.citethemrightonline.com/basics

Note - by submitting an assignment or sitting an exam you are declaring yourself fit to take the assessment therefore please make sure that if you are unwell you understand our mitigating circumstances process. The most important thing to do is keep us informed if you are experiencing problems!

Required reading and other Resources
Because of the nature of the subject, students will have to study a variety of information sources from the web, the library and lecture notes (available from the module website which is available independently or through Studyspace).

A week by week breakdown of materials and notes will be at

http://www.barryavery.com/blog/teaching

Required text
Rasmus Lerdorf and Kevin Tatroe. (latest edition) Programming PHP. O'Reilly,

Fowler, M. (latest edition) UML Distilled: A Brief Guide to the Standard Object Modeling Language Addison-Wesley

Additional texts
Musciano C. & Kennedy B., HTML & XHTML: The Definitive Guide, O'Reilly Media, Inc.; 6th edition, ISBN-10: 0596527322

Eric A. Meyer. Cascading Style Sheets The Definitive Guide. O'Reilly, second edition, 2004. ISBN 0-596-00525-3.

Shelley Powers. Learning JavaScript. O'Reilly, 2006. ISBN 0-596-52746-2.

David Sklar. Learning PHP 5. O'Reilly, first edition, 2004. ISBN 0596005601.

Other texts
There are a wide variety of trade and other books (books typically aimed at IS professionals, which typically don't have exercises) on building applications in PHP with databases. Many of these are in the library and are available for additional reading. There is more information on this in the first lecture.

E-books

The Learning Resource Centre website has a number of ebooks available - the most relevant are available through the Safari service, which allows access to a number of O'Reilly texts electronically (many PHP and SQL books can be found there).

Teaching Programme

A complete breakdown of the taught subject areas is on the module web site under Web Development for Business, from

http://www.barryavery.com/blog/teaching

The initial part of the course (teaching period 1) will focus on the use of PHP in web scripting. The second part (after the December break), will explore the Object data model and the design principles encapsulated within UML.

Teaching Period One

The following is a rough break down of the subjects by week, but it should be noted that there can be variability in the speed of the course depending on the students and the timings of student union meetings etc. The web site will be updated with the course materials as we go along, so it is best to look there for the full week by week breakdown.

Week 1	Server side scripting introductory concepts simple generation of XHTML from PHP
Week 2	XHTML forms and PHP. Revisiting HTTP
Week 3	Core data types and control structures
Week 4	Control structures cont. Predefined objects arrays and functions
Week 5	Using Databases and SQL as the connectivity layer to PHP
Week 6	Introduction to CRUD – create, delete and retrieve
Week 7	More CRUD - update
Week 8/9	Building Secure sites and authentication

Teaching period 2 is detailed online.