DEREE COLLEGE SYLLABUS FOR:

ITC 4314 INTERNET PROGRAMMING – LEVEL 6
(Updated Fall 2013)

US Credits: 3/3/3
UK Credits:15

PREREQUISITES:

CS 1070 Introduction to Information Systems
CS 2188 Introduction to Programming
CS 3260 Fundamentals of RDBMS

CATALOG DESCRIPTION:

Internet standards and infrastructure. Internet browser functionality. Web 2.0. Client/server structures. Standardized services. Rich Internet applications. Client and server technologies. Security and privacy.

RATIONALE:

The module exposes students to today's development methodologies and programming principles with emphasis on ASP.NET. It provides students with the opportunity to develop a Web 2.0 rich Internet application, enhancing their understanding of web development and their judgement of the effectiveness of different development techniques. Web application security concepts as also implemented.

The course is suitable for students who aim for a career or graduate studies in Information Systems, Information Technology, Computer Science, and Software Engineering.

LEARNING OUTCOMES:

As a result of taking this course, the student should be able to:

1) Evaluate the effectiveness of web application development methodologies and justify the choice of technologies and design decisions.
2) Develop programming skills in mark-up languages (XHTML, Dynamic HTML and XML)
3) Develop programming skills in scripting languages (JavaScript, VBScript, PHP)
4) Use ASP.NET 2.0 and Java Server Faces (JSF) to design and implement Ajax-enabled rich Internet applications.
5) Configure Web Servers (IIS and Apache)
6) Discuss and deploy web related privacy and security features.

METHOD OF TEACHING AND LEARNING:

In congruence with the learning and teaching strategy of the College, the following tools/activities are used:

- Classroom lectures, discussions, Online Tutorials laboratory practical sessions and problem solving.
- Office hours held by the instructor to provide further assistance to students.
- Use of the Blackboard Learning platform to further support communication, by posting lecture notes, assignment instruction, timely announcements, and online submission of assignments.

ASSESSMENT:

Summative:

Project (Rich Internet application development)	**60**
Final Examination (2-hour comprehensive): combination of short answers to essay questions and case problems	**40**

Formative:

Coursework: Short programming exercises	**0**

The formative assessments aim to shape teaching along the semester and prepare students for the summative assessments.

The project tests Learning Outcomes 1,4,5
The final examination tests Learning Outcomes 1, 2, 3, 6.

(Guidelines and assessment rubrics are distributed on the first day of classes along with the course outline.)

INDICATIVE READING:

REQUIRED READING:

Deitel H.M. & Deitel P.J., Internet & World Wide Web How to Program, 4th ed., Pearson Education (© 2008). ISBN 0-13-175242-1.

RECOMENDED READING:

Gravell AM, Parsons D, Dynamic Web Application Development using ASP.NET, Course Technology (©2010) ISBN: 978-1408017647

Stobart S. & Parsons D., Dynamic Web Application Development using PHP and MySQL, Course Technology (©2008) ISBN: 978-1844807536

Eve Andersson et al, Software Engineering for Internet Applications, MIT Press (© 2006) ISBN: 978-0262511919

Malik D.S., Java Programming: Program Design Including Data Structures, Thomson Course Technology (©2006) ISBN: 978-1418835408

COMMUNICATION REQUIREMENTS:

Daily access to the course's site on the College's Blackboard CMS. Effective presentation skills using proper written and oral English. Communicate and coordinate during team activities.

SOFTWARE REQUIREMENTS:

Microsoft's Visual Studio Express and Oracle JDeveloper
IIS and Apache Web Servers,
MySQL and OracleXE DBMS,
Adobe Creative Suite Master Collection
(all software latest release)

WWW RESOURCES:

How Internet Infrastructure Works (http://computer.howstuffworks.com/internet/basics/internet-infrastructure.htm)

Extensible Markup Language (XML) Specification
http://www.w3.org/TR/REC-xml/

Document Object Model (DOM)
http://www.w3.org/DOM/

PHP manual
http://php.net/manual/en/index.php

Get started with Microsoft ASP.NET
http://www.asp.net/get-started

INDICATIVE CONTENT:

1) Internet and Web Protocols
   a) Client-Server Architecture
   b) Web Browser Basics: Internet Explorer and Firefox
   c) Web 2.0
2) Introduction to XHTML
3) Cascading Style Sheets (CSS)
4) JavaScript/VBScript
   a) Introduction to Scripting
   b) Control Statements
   c) Functions
   d) Arrays
   e) Objects

   f) Events
5) XML
   a) Documents
   b) Logical Structures
   c) Physical Structures
   d) Conformance
6) Web Server Structures
   a) Setup
   b) Introduction Administration
7) Database Connectivity: Oracle, MySQL, SQL Server
8) PHP
   a) Basic syntax
   b) HTTP authentication with PHP
   c) Connection handling
9) ASPNET
   a) Web Forms
   b) MVC
   c) AJAX
10) Web Services