

DEREE COLLEGE SYLLABUS FOR: ITC 4274 FULL STACK WEB DEVELOPMENT		3/1.5/3
Previously ITC4214 Internet Programming (Updated Fall 2026) UK LEVEL: 6 UK CREDITS: 15		
PREREQUISITES:	ITC 2088 Introduction to Programming ITC 3160 Relational and Modern Databases	
CATALOG DESCRIPTION:	Internet standards and infrastructure. Client and server technologies. Rich Internet applications. Scripting Languages. Server-side programming. Frameworks. Security and privacy.	
RATIONALE:	The course exposes students to modern web development methodologies and programming principles. It provides students with the opportunity to develop complex, data driven full stack web applications, enhancing their understanding of web development and their judgement of the effectiveness of different development techniques. Web application security concepts are also implemented.	
LEARNING OUTCOMES:	As a result of taking this course, the student should be able to: 1. Design web-based applications using client-side and server-side programming languages. 2. Evaluate web development libraries and frameworks in the design and implementation of web applications. 3. Develop dynamic rich internet applications integrated with DBMS. 4. Configure web servers and deploy secure web applications.	
METHOD OF TEACHING AND LEARNING:	In congruence with the teaching and learning strategy of the college, the following tools are used: • Lectures and class discussions. • Laboratory practical sessions. • Homework assignments. • Office hours held by the instructor to provide further assistance to students. • Use of library facilities for further study and preparation for the exams • Use of the Blackboard course management platform to further support communication, by posting lecture notes, assignment instruction, timely announcements, formative quizzes and online submission of assignments. • Use of generative AI tools to examine how they may inform the exploration of course topics.	

ASSESSMENT:	Summative: <table border="1" data-bbox="600 155 1463 428"> <tr> <td>1st assessment: Coursework Design a static website with client-side technologies</td><td>30%</td></tr> <tr> <td>2nd assessment: Portfolio Collection of in-class activities, quizzes, short tasks completed throughout the semester</td><td>10%</td></tr> <tr> <td>Final assessment: Project Dynamic web application development / deployment</td><td>60%</td></tr> </table> Formative: <table border="1" data-bbox="600 489 1463 600"> <tr> <td>Short programming exercises</td><td>0%</td></tr> <tr> <td>Online Quizzes</td><td>0%</td></tr> </table> The formative assessments aim to prepare students for the summative assessments. The 1st summative assessment tests LO 1. The 2nd summative assessment tests LOs 1-4. The final summative assessment tests LOs 1-4. <i>The final grade for this module will be determined by averaging all summative assessment grades, based on predetermined weights for each assessment. If students pass the final summative assessment, which tests all Learning Outcomes for this module, and the average grade for the module is 40 or above, students are not required to resit any failed assessments.</i>	1 st assessment: Coursework Design a static website with client-side technologies	30%	2 nd assessment: Portfolio Collection of in-class activities, quizzes, short tasks completed throughout the semester	10%	Final assessment: Project Dynamic web application development / deployment	60%	Short programming exercises	0%	Online Quizzes	0%
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INDICATIVE READING:	REQUIRED READING: 1. Full Stack Web Development, The Comprehensive Guide. Philip Ackermann (2024), ISBN: 9781493224388 2. Building Websites with Django, Awanish Rajan (2021), ISBN: 9789389328288 RECOMMENDED READING: 1. Felke-Morris, T. (2015) <i>Web Development and Design Foundations with HTML5</i>, Pearson. 2. Nixon, R. Learning PHP, (2014) <i>MySQL & Javascript</i> with jQuery, CSS & HTML5, O'Reilly Media.										
INDICATIVE MATERIAL: (e.g. audiovisual, digital material, etc.)	REQUIRED MATERIAL: Course Presentations RECOMMENDED MATERIAL: N/A										
COMMUNICATION REQUIREMENTS:	Daily access to the course's site on the College's Blackboard CMS. Communication using proper written and oral English.										
SOFTWARE REQUIREMENTS:	MS-Office, Blackboard CMS Git Visual Studio Code										

WWW RESOURCES:	• HTML5 http://www.w3.org/TR/html5/ • Extensible Markup Language (XML) Specification http://www.w3.org/TR/REC-xml/ • Document Object Model (DOM) http://www.w3.org/DOM/ • CSS https://developer.mozilla.org/en-US/docs/Web/CSS/Reference • Bootstrap Docs https://getbootstrap.com/docs/4.1/getting-started/introduction/ • JavaScript https://devdocs.io/javascript/
INDICATIVE CONTENT:	Web Foundations and Internet Technologies • Internet and World Wide Web architectures, including client-server and N-tier models • Web standards, browser functionality, and Internet protocols • HTML, forms, data validation, and metadata for web applications Front-End Web Development • Cascading Style Sheets (CSS), selectors, properties, and responsive design approaches • CSS frameworks and modern front-end development practices • JavaScript programming, object-based development, events, and asynchronous interactions • Contemporary front-end frameworks and user interface development Back-End and Full Stack Development • Server-side programming concepts and object-oriented development • Database connectivity and dynamic data handling • Full stack application architecture and integration • Modern server-side and full stack development frameworks Web Deployment and Operations • Web server architectures and application hosting environments • Application deployment and administration practices • Web application security and operational considerations