

COURSE STRUCTURE

Name of Course: RAPID APPLICATION DEVELOPMENT

Course Code: DCS2102

Credit Hours: 4

Prerequisite/co-requisite: ICT1104 Database Management

Summary: This course aims to introduce the Rapid Application Development (RAD) technique by using practical knowledge of web programming concepts, dynamic web pages and responsive user interface design. Students will be exposed to the Visual Studio RAD tool, and how it is applied in Web and Mobile application development. Students will be introduced to the development of cross platform application development and model-view-controller technique. Towards the end, an introduction to current web services available for RAD developers will be covered.

Course Learning Outcomes:

Upon completing this course, the students will be able to:

CLO1: Apply the principles and concepts of Rapid Application Development. (C3, PLO1)

CLO 2: Display programming skills in web and mobile hybrid application development using HTML, CSS, JavaScript, and PHP programming language. [P3, PLO3]

CLO 3: Apply cloud services in application development. [C3, PLO1]

Course Format:

Total Student Learning Time (SLT) (L = Lecture; T = Tutorial; P = Practical; EL = E-Learning) :					
Learning Hours				Independent Learning (hr)	Total Student Learning Time (hr)
L	T	P	EL		
28	0	26	14	92	160

Teaching and Delivery Methods/ Teaching Methodology:

Lectures, Tutorial and Practical/Laboratory work delivered in a combination of blended & independent learning

E-Learning provided by INTI makes learning more accessible and convenient for the students. The blended model utilized by INTI is the integration of E-learning via INTI's Learning Management System and the conventional lecturer-led classroom activities. INTI students are required to access to the online learning materials (additional notes, reading materials, online assessments, discussion forums and etc.), so as to acquire a complete learning process. This also promotes self-directed learning in encouraging INTI students to be independent learners.

Syllabus:

Lecture	Course Content Outline	CLO*
1 - 4	Introduction to Rapid Application Development (RAD) Concepts <ul style="list-style-type: none"> - Understanding the phases of RAD and their importance in web application development - Alternatives RAD Approaches (Agile development, lean development, rapid prototyping, extreme programming, joint application development, scrum, spiral) 	1
5 - 8	Introduction to HTML, CSS, and Bootstrap <ul style="list-style-type: none"> - Basics of HTML markup and structure - Styling web pages using CSS, including selectors, properties, and layout techniques - Creating responsive web designs with Bootstrap framework 	2
9 - 12	Introduction to JavaScript <ul style="list-style-type: none"> - Overview of JavaScript and its role in web development - Working with variables, data types, operators, and control structures - Introduction to DOM manipulation and event handling in JavaScript 	2
13	Introduction to Cloud Services <ul style="list-style-type: none"> - Overview of popular cloud service providers (e.g., AWS, Azure, Google Cloud) - Understanding the benefits and considerations of deploying applications to the cloud 	3
14 - 18	Introduction to PHP <ul style="list-style-type: none"> - Basics of PHP programming language, syntax, and data types - Working with variables, operators, control structures, and functions in PHP - Overview of the PHP framework and its features - Understanding the Model-View-Controller (MVC) architecture and its implementation in PHP framework - Database Integration with PHP framework - Performing basic CRUD operations with PHP framework's database abstraction layer - Implementing user authentication and authorization with PHP framework's built-in functionality 	1,2,3
19 - 28	Introduction to Mobile Development <ul style="list-style-type: none"> - Overview of Mobile Development framework (IONIC) - Getting Started with Ionic Components - Styling and Theming in Ionic - Working with Native Features - Deploying cross platform Web Application and Mobile App – Hybrid 	2,3

Student Evaluation:

Continuous Assessment		Percentage (%)	CLO
1	Test	20	1
2	Assignment	20	2
3	Lab Report	20	2
Total		60%	
Final Assessment		Percentage (%)	
Group Project		40	2,3
Total		100%	

Final exam format: NIL

Grading Scale:

A+ (90-100), A (80-89), A- (75-79), B+ (70-74), B (65-69), B- (60-64), C+ (55-59), C (50-54), C- (45-49), D (40-44), F (0-39), Resit Pass, RP (50-100), Resit Fail, RF (0-49)

IMPORTANT NOTE:

Students are required to “**PASS**” BOTH continuous and final assessment in order to pass the subject.

Additional Information: Visual Studio Code

Main Reference(s) Supporting Course:

1. Gerardus Blokdyk (2020), Rapid Application Development a Complete Guide ISBN: 0655436359

Additional References:

1. Minnick, J.L. (2021) Responsive Web design with HTML5 & CSS. Boston, Ma: Cengage. ISBN: 9780357423
2. Cengage Learning (2021) Javascript For Web Warriors. S.L.: Cengage Learning Custom P. ISBN: 9780357638002

LABORATORY WORK:

Lab	Practical Work
1	Practical/Lab Class Outline
2- 3	Lab 1: HTML, CSS, and Bootstrap Techniques
4 - 5	Lab 2: JavaScript Application Development
6 - 10	Lab 3: PHP Programming
10 - 14	Lab 4: IONIC Framework