COMSATS University Islamabad
Department of Computer Science
Course Description Form (CDF)

Course Information

Course Code: **CSC336**	Course Title: **Web Technologies**
Credit Hours: **3(2,1)**	Lecture Hours/Week: **2**
Lab Hours/Week: **3**	Pre-Requisites: **CSC241–Object Oriented Programming**

Catalogue Description:

This course introduces the modern web technologies used for the web development. Topics include: Overview of Web Platforms; Web Architectures; Markup Languages; Styling; Client-Side Scripting Languages; Server-Side Technologies; Use of Databases in Web-based Applications; Web APIs; Programming under Platform Constraints; Security Issues; and Web Hosting.

Unit wise Major Topics:

Unit	Topic	No. of Teaching Hours
1.	Web Development: Overview, Platforms, Terminologies, Standards & Constraints, Applications Categories, and Development Environments.	1
2.	Tiered Web Architecture: One-Tier, Two-Tier, and N-Tier.	1
3.	Markup Languages: HTML, HTML5, and XHTML.	4
4.	Styling: Cascading Style Sheets (CSS), CSS3, Bootstrap Framework, CSS Extensions, and SASS.	7
5.	Client-Side Scripting (JavaScript): DOM, Data Validation, Animation, Event Handling, Regular Expressions.	6
6.	Server-Side Programming: Introduction to PHP & Laravel; Database Utilization & Interaction; CRUD Operations (Laravel); XML, AJAX, JSON; Web APIs Applications; Programming Via: Platform-Specific APIs & Platform Constraints; and SQL Injections.	11
Total Contact Hours		**30**

Mapping of CLOs and SOs

Sr.#	Unit #	Course Learning Outcomes	Blooms Taxonomy Learning Level	SO
		CLO's for Theory		
CLO-1	1-2	Classify web architectures and related applications.	*Understanding*	1
CLO-2	3-5	Demonstrate the capabilities for developing professional front-end using client-side technologies.	*Applying*	2-4
CLO-3	6	Illustrate the concepts of server-side technologies for secure database interactions.	*Applying*	2-4
		CLO's for Lab		
CLO-4	3-6	Apply the concepts of markup & scripting languages and client side technologies.	*Applying*	2-4
CLO-5	2-6	Develop dynamic applications using current industrial	*Creating*	2-5

	practices.				

CLO Assessment Mechanism

Assessment Tools	CLO-1	CLO-2	CLO-3	CLO-4	CLO-5
Quizzes	Quiz 1	Quiz 2 & 3	Quiz 4	-	-
Assignments	-	Assignment 1&2	Assignment 3&4	Lab Assignments	-
Midterm Exam	Mid Term Exam	Mid Term Exam	-	-	-
Final Term Exam	Final Term Exam			-	-
Project	-	-	-	-	Lab Project

Text and Reference Books

Textbooks:

1. Web Design Playground: HTML & CSS the Interactive Way, Paul McFedries, Manning, 2019.
2. Beginning PHP and MySQL: From Novice to Professional, Frank M. Kromann, Apress, 2018.
3. Laravel Up and Running, A Framework for Building Modern PHP Apps, Matt. Stauffer, Oreilly, 2019.

Reference Books:

1. Web Engineering, Sahil Rai, Kuk University Notes, 2020.
2. Web Programming with HTML5, CSS, and JavaScript, John Dean, Jones & Bartlett Learning 2018.