

CSC1006	Open Source Programming	L	T	P	J	C
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Pre-requisite	NIL	Syllabus version				
		v1.0				
Course Objectives:						
<ol style="list-style-type: none"> 1. To introduce students to open source software and client-server model. 2. To integrate HTML and Sever-side scripting 3. To develop interactive web applications. 						
Expected Course Outcome:						
<ol style="list-style-type: none"> 1. Explicate common open source licenses and the impact of choosing a license 2. Exemplify client-server architecture and able to design simple PHP programs. 3. Develop PHP applications using arrays and strings 4. Design web applications using session and cookies. 5. Identify the role of backend for web applications 6. Integrate PHP with MySQL to design applications to solve real time problems. 						
Student Learning Outcomes (SLO): 2,12,15						
Module:1	INTRODUCTION TO OPEN SOURCE	5 hours				
Open Source-Definition- Licences- Closed Vs. Open Source-Advantages of Open Sources Software - OSS Development Model.						
Module:2	PHP FUNDAMENTALS	6 hours				
Architecture of Web Development – Role of Web Browser - Structure of a PHP Script-Blank Lines and Layout – Comments. Variable –Types of Variable, Constant-Logical Constant - Numbers, String-PHP Keywords-Assignment Statements.						
Module:3	PHP ARRAYS AND CONTROL STRUCTURES	6 hours				
Arrays-Syntax and Types-Numeric Array-Associative Array- Multidimensional Arrays. Conditional Statements – If-Else- Switch-Looping-while-for loop-Paring and Sorting Arrays.						
Module:4	PHP FUNCTIONS, SESSION AND COOKIE	5 hours				
Functions-Basic Syntax-User Defined Functions-Predefined Functions –Recursive Functions- Session Management – Creating Session-Maintaining Session Variable-Destroying Session-Cookie –File Handling.						
Module:5	PHP AND MYSQL DATABASE MANAGEMENT	8 hours				
MySQL-Database Introduction-Basic SQL Queries-Create- Insert-Select-Update-Delete Table values –Import and Export Database. PHP-MySQL Database Predefined Functions - MySQL database programming – Connecting Database – Table creation – Record Insertion – Updating (Connect, Insert, Select, Update and Delete Operations) using PHP.						

	Total Lecture hours:	30hours
Text Book(s)		
1. Bramer, Max. Web Programming with PHP and MySQL: A Practical Guide.Springer, 2015.		
Reference Books		
1.Nixon, Robin. Learning PHP, MySQL, JavaScript, and CSS: A step-by-step guide to creating dynamic websites. O'Reilly Media, Inc.”, 2012. 2.Meloni, Julie C. Sams teach yourself PHP, MySQL and Apache all in one. Sams Publishing, 2012. 3. Raymond, Eric S. The Cathedral the Bazaar: Musings on Linux and open source by an accidental revolutionary. ” O’Reilly Media, Inc.”, 2001.		
List of Challenging Experiments (Indicative)		
1	Setting up LAMP (Linux, Apache, MySQL and PHP) Environment	1 hour
2	Practice with HTML5 Form Elements	2 hours
3	Integrating HTML and PHP	2 hours
4	PHP String Manipulation	2 hours
5	Handling Arrays in PHP	4 hours
6	PHP JSON Parsing	2 hours
7	Session and Cookie with Web Forms	2 hours
8	Client Side and Server Side Validation	2 hours
9	Manipulating MySQL Queries	6 hours
10	PHP MySQL DB Management with Forms	7 hours
	Total Laboratory Hours	30 hours
Recommended by Board of Studies		16-06-2015
Approved by Academic Council		No. 37 th Date 16-06-2015