GUJARAT TECHNOLOGICAL UNIVERSITY, AHMEDABAD, GUJARAT

COURSE CURRICULUM
COURSE TITLE: DYNAMIC WEB PAGE DEVELOPMENT
(COURSE CODE:3350702)

Diploma Programmes in which this course is offered	Semester in which offered
Computer Engineering	5th Semester

1. RATIONALE

One of the most common types of dynamic web pages is the database driven type. Common Applications of such technology are online banking, ticket/hotels booking sites, E-Commerce and online transaction processing systems etc.

PHP is a powerful tool for making dynamic and interactive database driven web pages. PHP is the widely-used as efficient open source technology alternative to competitors. The goal of the language is to allow web developers to write dynamically generated pages quickly. This course covers basic concepts for developing interactive web based applications; including HTML, server side scripting, user interface design considerations, and system integration considerations and PHP with MYSQL database. Students will learn integration of HTML, PHP with MYSQL database to develop web based applications. Overall the students will gain the experience in designing and implementing working prototypes of web pages, web sites, and interactive dynamic web-based applications. The course will also be useful as prerequisite to forthcoming web development subjects.

2. COMPETENCY

The course content should be taught and implemented with the aim to develop required skills so that students are able to acquire following competency:

- **Develop interactive web based application using HTML, CSS, PHP and MYSQL**

3. COURSE OUTCOMES:

The theory should be taught and practical should be carried out in such a manner that students are able to acquire different learning out comes in cognitive, psychomotor and affective domain to demonstrate following course outcomes.

i. Design and develop a Web page using HTML.
ii. Style your page using CSS, internal style sheets, and external style sheets.
iii. Develop Web page using different form elements.
iv. Design and develop a Web site using text, images, links, lists, and tables for presenting web based content.
v. Create dynamic Website/ Web based Applications. using HTML, PHP, MYSQL database
vi. Debug the Programmes by applying concepts and error handling techniques of HTML, PHP, MYSQL.

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4. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (L+T+P)	Examination Scheme				
				Theory Marks		Practical Marks		Total Marks
L	T	P	C	ESE	PA	ESE	PA	
3	0	4	7	70	30	40	60	200

Legends: L-Lecture; **T** – Tutorial/Teacher Guided Theory Practice; **P** - Practical; **C** – Credit **ESE** - End Semester Examination; **PA** - Progressive Assessment.

5. COURSE CONTENT DETAILS

Unit	Major Learning Outcomes (in cognitive domain)	Topics and Sub-topics
Unit 1 : Introduction to Html and CSS	1a. Design and develop web pages using basic HTML tags	1.1History of Html 1.2 Basic Html Tags (<html>,<head>,<title>,<body>,<hr>,<img>,<embed>,<bgsound>,<blink>,<font>, ,<marquee>,<a>) 1.3 Coding style ,syntax, Working with Image, Linking a webpage , Defination list (, ,) 1.4 Working with Table (<th>, <td>, <tr>) 1.5 Division Tags, IDs & Classes 1.6 Special Character or tags
	1b. Use of advance HTML 5 Tags. 1c. Design Static Webpage using Html5 tags	1.7Difference between Html 4.0 & 5.0 1.8 Brief Discuss Html 5 tags with Ex. (<header>, <aside>, <section>, <footer>, <article>,<nav>) 1.9 Introduction to Html5 Form Input Type ,Elements & Attributes. 1.10 Form Input Type (color, Date, Datetime, Datetime-local, email, month number, range, search, tel, time, url, Week) 1.11 Form Input Type Elements(Datalist, Keygen, output) 1.12 Html5 video & audio(<Audio>, <Video>) 1.13 Static Webpage Design using Html5 tags
	1d. Design and develop web pages using CSS/ CSS 3 styles, internal and/or external style sheets.	1.14Introduction to Css/dhtml 1.15 Briefly Discuss to stylesheet (What is Css? ,Use of Css, Type's of Css, Syntax)

Unit	Major Learning Outcomes (in cognitive domain)	Topics and Sub-topics
		1.16 Css margin, padding , Text, Font Properties 1.17 Css and links 1.18 Css Background, Border Properties, Height, width, Css Positioning, Layout creating 1.19 Css and backgrounds, Css and borders, Float Properties, Css video, audio Tag, Map Creating 1.20 Diff. between Css2 & Css3 1.21 Css3- Opacity, Box-Shadow, Border- radius, Gradient, Transition, Transform , Animation , Keyframes
Unit – II Working with Basic Building Blocks of PHP	2a. Understand PHP file structure 2b. States the steps to Install & test web server 2c.Describe the working of PHP 2d. State Steps to Configure Apache to use PHP	2.1 Introduction to PHP 2.2 A Brief History of PHP 2.3 How PHP works?, PHP file structure, PHP start and end tags, Commenting codes (Single line, Multi line) 2.4 Creating and saving a PHP file 2.5 Output statement, echo and print statement 2.6 Installing PHP for (Windows, Wamp server , linux , Lamp server, XXAMP server), Configuring Apache to use PHP, Testing the PHP Installation
	2e. Use PHP variables, data types and operators. 2f. Describe PHP Operators	2.7 PHP Variable and value types, data types, changing types with settype(), casting 2.8 PHP Operators (Arithmetic, Logical, Bitwise, Assignment, String, Inc/ Decrement, Comparison) 2.9 Operator precedence, constants, predefined constants
	2d. Apply control structures in programming	2.10 Flow control statements: The simple if statement, the if-else statement, else if clause, switch statement, The ? operator 2.11 Loops: the While statement, do.. While statement, For statement, breaking out with break statement, continue statement, nesting loops.
Unit – III Working with PHP Arrays and functions	3a. State the steps to use different types of array in given application 3b. State the steps to create user defined functions and working with	3.1 Array: Types of Array, Arrays definition, Creating arrays; using arrays() function, using Array identifier, defining start index value, adding more elements to array, 3.2 Associative arrays, key-value pair,

Unit	Major Learning Outcomes (in cognitive domain)	Topics and Sub-topics
	different type of built-in functions for a given application	using for-each statement to go through individual element with loop. 3.3Functions: defining a user defined function, calling function, returning values from function, Variable scope, Accessing variables with *global* statement, 3.4 Setting default values for arguments, passing with values and passing with reference, 3.5Working with string, Dates and Time functions, common mathematical functions
Unit-IV User data input through Forms	4a. State the steps to Create an input form 4b. State the steps to use Using PHP superglobals method for a given application	4.1 Input through Form controls- using Text Box, Text Area, List Box, Check Box, Radio Box, Hidden Fields 4.2 Submitting form values, using $_*Get* and $_*Post* Methods, $_REQUEST 4.3 Accessing form inputs with *Get/Post* functions 4.4 Combining HTML and PHP codes together on single page, Redirecting the user
	4c. List the steps to Create and manage session	4.5 Basics of cookies, Using Cookies and maintaining Session 4.6 Using Cookie Variable, Using Cookies with Authentication 4.7Understanding sessions and Session Variable 4.8Starting a session, Registering and modifying Session Variable 4.9Managing user preferences with session
Unit – V Establishing a Database Connection and Working With Database	5a List the steps to Establish a connection with database	5.1 Overview of Database 5.2Introduction to MYSQL 5.3Creating Database using phpmyadmin & Console(using query, using Wamp server)
	5b. State the steps to create tables and Manipulating tables data using SQL	5.4Connecting with PHP/ Database Connection, creating and executing queries using *mysql_query()*, 5.5creating tables, inserting data in to table, inserting data through HTML Forms

Unit	Major Learning Outcomes (in cognitive domain)	Topics and Sub-topics
		5.6 Retrieving data from Table, using *mysql_numrows(),* Printing the output using PHP and HTML 5.7 Searching a record, displaying record fields in HTML form controls, Updating and deleting records
	5c. Describe steps for hosing a Website using 'C' panel and Filezilla software	5.8Hosting Website (Using 'C' panel, Using Filezilla Software) 5.9 Working on mini PHP Project: Developing a sample web based application and hosting it

6. SUGGESTED SPECIFICATION TABLE WITH HOURS & MARKS (THEORY)

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
I	Introduction to Html and CSS	8	3	3	4	10
II	Working with Basic Building Blocks Of PHP	10	4	4	6	14
III	Working with PHP Arrays and functions	6	2	4	10	16
IV	User data input through Forms	8	2	4	8	14
V	Establishing a Database Connection and Working With Database	10	4	4	8	16
	Total	**42**	**15**	**19**	**36**	**70**

Legends: R = Remembrance; U = Understanding; A = Application and above levels (Revised Bloom's taxonomy)
Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

7. SUGGESTED LIST OF EXERCISES/PRACTICALS

The practical/exercises should be properly designed and implemented with an attempt to develop different types of cognitive and practical skills **(Outcomes in cognitive, psychomotor and affective domain)** so that students are able to acquire the competencies.
Following is the list of practical exercises for guidance.
Note: Here only outcomes in psychomotor domain are listed as practical/exercises. However, if these practical/exercises are completed appropriately, they would also lead to development of Programme Outcomes/Course Outcomes in affective domain as given in a common list at the beginning of curriculum document for this programme. Faculty should refer to that common list and should ensure that students also acquire those Programme Outcomes/Course Outcomes related to affective domain

S. No.	Unit No.	Practical Exercises (Outcomes' in Psychomotor Domain)	Hrs. required
1	I	Write HTML codes for displaying image and demonstrate hyper linking.	02
2	I	Write HTML codes to attach video on webpage using embed tag in html	02
3	I	Create A Feedback Form Using Form handling.	01
4	I	Create a contact form using form handling.	01
5	I	Write a code for creating static page design using division tag	02
6	I	Write a code for design menu system using list tag	02
7	I	Design Google Page using HTML5	02
8	I	Apply CSS formatting to created pages and explore it fully, also use readymade css templates.	06
9	II	Write a PHP script to display Welcome message. Write a PHP script to demonstrate use of arithmetic operators, comparison operators, and logical operators.	03
10	II	Write a PHP script to get type of variable using gettype() Write a PHP script to set type of variable using settype()	01
11	II	Write a PHP script to set type of variable using type casting	01
12	II	Write PHP Script to print Fibonacci series. Write PHP Script to calculate total marks of sudent and display grade. Write PHP Script to find maximum number out of three given numbers.	03
13	III	Write PHP Script using two dimensional arrays such as addition of two 2x2 matrices. Write PHP Script to demonstrate use of associative arrays and for FOR EACH loop execution.	03
14	III	Write PHP script Using user defined function Write PHP script to demonstrate use of string function.	03
15	III	Write PHP script to demonstrate use of date/time functions and Math functions.	02
16	IV	Create form using text box, check box, radio button, select, submit button. And display user inserted value in new PHP page (e.g. student registration/inventory/library form).	03
17	IV	Write two different PHP script to demonstrate passing variables through a URL Write two different PHP script to demonstrate passing variables through Hidden Variables.	04
18	IV	Write two different PHP script to demonstrate passing variables with sessions Write PHP script to demonstrate passing variables with cookies	04

		Write a program to keep track of how many times a visitor has loaded the page.	
19	IV	Write a Program to upload image with extension gif or jpeg. Write a PHP script to create watermarks using *Imagecopymerge*. Write a PHP script to convert images to grayscale.	04
20	V	Write a PHP script to connect MYSQL server from your web application. Write a PHP script to create and drop database.	03
21	V	Create database using phpMyAdmin. Write a program to read input data, from table and display all these information in tabular form on output screen.	04
22	V	Write a program to manipulate data from table and display all this information using table format.	03
23	V	Develop small PHP application(s) using forms and database	08
		Total Hours	**67**

8. SUGGESTED LIST OF STUDENT ACTIVITIES

Following is the list of proposed student activities like:

i. Prepare power point presentation showing relation between PHP, APACHE and MYSQL.
ii. Prepare a sample static website using HTML tags.
iii. Demonstrate various readymade CSS templates in group.
iv. Develop sample we based Application using PHP and MYSQL and present the same.

9. SPECIAL INSTRUCTIONAL STRATEGIES (if any)

Concepts will be introduced in classroom input sessions and by giving demonstration through projector.

More focus should be given on practical work which will be carried out in laboratory sessions. The course activities include:

- Formal Lecture: 40% (approx.) Supervised Laboratory Experiences: 60% (approx.) If possible theory sessions may be conducted in labs so that theory and practice can go hand in hand.
- Group Discussion and presentation of live websites

10. SUGGESTED LEARNING RESOURCES

A) List of Books

S. No.	Title of Book	Author	Publication
1.	Introducing Html5 2/E	Pb By Bruce Lawson;Remy Sharp	Pearson Education
2.	Web Enabled Commercial Application Development Using HTML, JavaScript, DHTML and PHP, 4th Edition 2010	Ivan Bayross	Paper Back ISBN : 9788183330084
3.	PHP: The Complete Reference	Steven Holzner	McGraw-Hill Osborne ISBN-13: 978-0071508544
4.	Head First PHP & MySQL	Lynn Beighley, Michael Morrison	o'reilly Media
5.	Teach yourself PHP, Mysql and Apache All in One	Julie C. Meloni,	Pearson Education

B) List of Major Equipment/ Instrument with Broad Specifications

1. Computer System with latest configuration, Server with latest specification, broadband or leased line connection
2. Multimedia Projector

C) List of Software/Learning Websites

Software: WAMP server / XAMPP server, 'C' Panel, Filezilla, Text Editor

i. http://www.codecademy.com/tracks/web , http://www.codecademy.com/tracks/php
ii. http://www.html.net , http://www.w3schools.com/PHP
iii. http://www.cssbasics.com
iv. http://www.tutorialpoint.com
v. http://www.homeandlearn.co.uk

11. COURSE CURRICULUM DEVELOPMENT COMMITTEE

Faculty Members from Polytechnics

- **Prof. P.P. Kotak,** H.O.D. Computer Department, A V P T I, Rajkot
- **Prof. R. M. Shaikh,** H.O.D Computer Department, K. D. Polytechnic, Patan
- **Prof. K. N. Raval,** H.O.D Computer Department, R. C. Technical Institute, Ahmedabad
- **Prof. R. M. Shah,** H. O. D., Computer Department, GP, Ahmedabad.
- **Prof. J. J. Karagthala** Lecturer Computer Engineering Department, GGP
- **Prof. R. K. Vaghela** Lecturer Computer Engineering Department,RCTI

Coordinator and Faculty Members from NITTTR Bhopal

- **Dr. R. K. Kapoor**, Associate Professor, Dept. of Computer Engineering and Applications.
- **Dr. M. A. Rizvi,** Associate Professor, Dept. of Computer Engineering and Applications.