

GUJARAT TECHNOLOGICAL UNIVERSITY, AHMEDABAD, GUJARAT

COURSE CURRICULUM COURSE TITLE: WEB DEVELOPMENT TOOLS (Code: 3340706)

Diploma Programmes in which this course is offered	Semester in which offered
Computer Engineering	4 th Semester

1. RATIONALE

The Internet has grown from the simple desire to a phenomenon which is leaving hardly any aspects of our daily lives untouched. For facilitating users, web sites carry many types of features. Today developing professional web sites includes a gamut of many kindsof technologies and tools involving GUI, animations, Content management, database, blogs etc. For designing and publishing web documents creating user interfaces, animation and informative reports are basic requirement of the software industry today. After completion of this course the student will be able to utilize these technologies and tools to create a professional website using scripting, blogging tool and a content-management system, database, animation tools.

2. COMPETENCY

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

- **Create interactive website using various tools.**

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. Illustrate the basics of WWW (World Wide Web) and different Web Browsers.
- ii. Use Gmail account and Google Apps
- iii. Create wordpress based user interface and website
- iv. Create small scale animations

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	
0	0	4	4	0	0	40	60	

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

5. COURSE DETAILS

Unit	Major Learning Outcomes (in cognitive domain)	Topics and Sub-topics
Unit – I Web Terminologies	1a. Define various web terminologies 1b. Describe use of client side and server side scripting	1.1 Web Terminologies : web, web page, http, domain name, register and host a domain name, ISP 1.2 XML Technology : XML TREE, XML DTD 1.3 Client side scripting: definition, importance, examples: Javascript, AJAX, APPLET etc 1.4 Server Side Scripting : definition, importance, examples: CGI, Servlet, JSP, J2EE etc 1.5 Web services : definition, importance, examples
Unit – II Introduction to Google apps	2a. Operate Gmail account and it's functionality 2b. Utilize various Google apps	2.1 Creating mail account 2.2 Gmail compose and reply : streamlined compose pane, check your mail while typing, formatting options appear only when you need them, new keyboard shortcuts, drag and drop addresses, drag and drop files, compose two messages at once, draft, create signatures, labels, filters, contacts (create groups and mailing lists, import contacts, contacts picker 2.3 Chat 2.4 Calendar (scheduling and other calendar basics, set up reminders, sharing and more), 2.5 Working with Documents: Word, Excel, creating form 2.6 Drive (Set up Google drive, (Organize, find, share files), open and preview files) 2.7 Working with Groups 2.8 Google printer 2.9 Working with Drop box

Unit	Major Learning Outcomes (in cognitive domain)	Topics and Sub-topics
Unit – III Working with Wordpress	3. Use Wordpress for creating Web pages including themes, posts and menus	<p>3.1 Introduction to wordpress : make a website or a blog using a wordpress, Downloading and Installing wordpress on XAMPP SERVER</p> <p>3.2 All menus on the Administration Screen</p> <p>3.3 Dashboard: website management functions of WordPress</p> <p>3.4 Themes: Installing and handling themes, Editing the appearance of themes, theme configurations, adjusting different elements of installed themes like slideshow, post, pages</p> <p>3.5 Posts: Adding new post, Modifying existing posts, placing images, videos to the posts, adding categories to publishing the posts on the websites</p> <p>3.6 Pages: Adding New webpages , Modifying pages, Editing pages,Placing images ,videos,mp3 to the pages, publishing the pages on the websites, creating static home pages.</p> <p>3.7 Menus: Creating Custom Menus, modifying themes default menu.</p>

Unit	Major Learning Outcomes (in cognitive domain)	Topics and Sub-topics
Unit – IV Working with Wordpress	4. Use Wordpress for Adding media, links and plugins to web pages	4.1 Media: Uploading pictures, videos, editing images, publishing them on the websites, embedding videos from Youtube to your website. 4.2 Links : Adding New links , Editing the links, Adding categories to the links, Managing Categories 4.3 Widgets: Adding, Editing widgets to the theme. 4.4 Plugins : Introduction to plugins , Installing plugins , Editing plugins. 4.5 Social Media Plugins: Floating social networking, social media widget, social media tabs, social media mashup, social networking icons 4.6 Users: Managing the accessibility to the website/blog. 4.7 Slider: Adding Custom Slider to the themes.
Unit – V Using Aliceto create animations.	5. create an animation for telling a story, playing an interactive game, or a video to share on the web	5.1 Code Editor , methods panel , control panel/tiles, scene editor,galleries 5.2 Camera Navigation control: turn camera left/right, forward/backward, Move camera 5.3 Creating first animation : open, save and run the project, add and position objects 5.4 Example using Do in order, on together , Move up, down, forward, backward, right, left 5.5 Examples using control structures 5.6 Using memory variables

Unit	Major Learning Outcomes (in cognitive domain)	Topics and Sub-topics
		5.7 Using user-define procedures 5.8 Add rotation and randomization : Examples of human objects walk, sit, run 5.9 Use keyboard controls 5.10Develop small animation

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

Note: There is no end of the term exam in this course and hence this table is not applicable.

7. SUGGESTED LIST OF EXERCISES/PRACTICALS

The practical/exercises should be properly designed and implemented with an attempt to develop different types of skills (**outcomes in psychomotor and affective domain**) so that students are able to acquire the competencies/programme outcomes. 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 certain outcomes in affective domain which would in turn lead to development of **Course Outcomes** related to affective domain. Thus over all development of **Programme Outcomes** (as given in a common list at the beginning of curriculum document for this programme) would be assured.*

Faculty should refer to that common list and should ensure that students also acquire outcomes in affective domain which are required for overall achievement of Programme Outcomes/Course Outcomes.

S. No.	Unit No.	Practical Exercises (Outcomes' in Psychomotor Domain)	Hrs. required
1	I	Write various web terminologies.	02
2	I	Create one sample XML document using different XML technologies.	03
3	II	Create Gmail Account and contacts. Test various mail utilities such as write mail, send mail, forward mail, reply mail, attach a file, creating signature, draft etc.	02
4	II	Test advanced feature of gmail and Test calendar functionality.	02
5	II	Test Google docs. Test Google drives and printer.	02
6	II	Create group, sharing information, sending messages to a group etc. Test DropBox.	02
7	III	Download and install wordpress on Xampp server.	02
8	III	Work with administration menu and Dashboard: Logging in and looking around	02
9	III	Understand the different features themes and what a theme is.	02

		Installing themes. Pick a theme that works for what you want to create. Switch your theme, if you change your mind. Make your theme beautiful on computers, phones, and tablets.	
10	III	Add personal touches to your blog, like as a custom header or background. Access more options to personalize your blog, such as unique fonts and colors.	03
11	III	Add and configure widgets (and what widgets are).	02
12	III	Create a post or a page. Publish a post with text and images. Use different post formats depending on what you want to publish. Publish a page with text and images.	04
13	III	Create a menu to help visitors navigate your pages and posts.	02
14	IV	Install plugins and edit plugins.	02
15	IV	Manage users to access your website	02
16	IV	Add custom slider.	02
17	V	Install Alice and understand code editor, scene editor, methods panel, control panel and galleries.	03
18	V	Add and position objects and use camera navigation control.	02
19	V	Write, code, debug and test simple programs on Alice.	02
20	V	Write, code, debug and test control statement based programs.	03
21	V	Write, code, debug and test animations using sub procedures.	04
22	V	Develop and test small animation applications.	06
Total			56

8. SUGGESTED LIST OF STUDENT ACTIVITIES

Following is the list of proposed student activities like:

- i. Develop small website for some commercial or educational or personal purpose using tools covered in the course
- ii. Presentation of website developed

9. SPECIAL INSTRUCTIONAL STRATEGIES (if any)

Students should be encouraged to give hands-on on each tool to create a professional looking web site under close guidance of teacher

10. SUGGESTED LEARNING RESOURCES

A) List of Books

Sr. No.	Title of Book	Author	Publication
1.	Learning to Program with Alice, 3rd Edition	Dann, Cooper and Pausch	Prentice Hall (Pearson Education), ISBN 0-13-212247-2, 2012

2.	Sams Teach Yourself WordPress 3 in 10 Minutes	Chuck Tomasi, Kreg Steppe	SAMS
3.	Web Technologies	Uttam Kumar Roy, Debarshi Kumar Sanyal	Oxford University Press

B) List of Major Equipment/ Instrument with Broad Specifications

- a. Internet Connection for Google apps
- b. Computer with latest configuration

C) List of Software/Learning Websites

- a. Softwares
 - i. Latest version of Wordpress
 - ii. Xampp server
 - iii. Latest version of Alice
- b. Learning websites
 - i. <http://www.andrew.cmu.edu/user/dslater/screenscasts/index.html> (Video tutorial for Alice)
 - ii. <http://www.w3schools.com/>
 - iii. http://www.alice.org/3.1/materials_videos (Video tutorial for Alice)
 - iv. http://www.alice.org/3.1/materials_download (Lab exercises for Alice)
 - v. <http://learn.wordpress.com>
 - vi. <http://learn.googleapps.com/training-videos>
 - vii. <http://www.1stwebdesigner.com/wordpress/wordpress-step-by-step-beginners-guide/>
 - viii. <http://www.free-ebooks.net/ebook/WordPress-for-Beginners-Easy-as-1-2-3/pdf?dl&preview>
 - ix. <http://www.graphicrating.com/2009/07/31/wordpress-tutorials-and-resources-for-designers-and-developers/>
 - x. <http://www.bgsu.edu/downloads/cio/file9350.pdf>
 - xi. <http://www.amazon.com/Sams-Teach-Yourself-WordPress-Minutes/dp/0672335468/>

11. COURSE CURRICULUM DEVELOPMENT COMMITTEE

Faculty Members from Polytechnics

- **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. Manisha P Mehta**, Sr. Lecturer in Computer Technology, K. D Polytechnic, Patan
- **Prof. R. M. Shah**, Sr. Lecturer in Computer Technology, Government Polytechnic, Ahmedabad

Coordinator and Faculty Members from NITTTR Bhopal

- **Dr. Sanjay Agrawal**, Professor, Dept. of Computer Engineering and Applications
- **Dr. R. K. Kapoor**, Associate Professor, Dept. of Computer Engineering and Applications