

GUJARAT TECHNOLOGICAL UNIVERSITY, AHMEDABAD, GUJARAT
COURSE CURRICULUM

Course Title: -Web Development Tools
(Code: 3340706)

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

1. RATIONALE

Creating user interfaces, animation and informative reports are basic requirement of the software industry. After completion of this the student will be able to utilize various tools to create website, database and small animations films and help students to design interface which is the demand of industry and further useful in project development forthcoming semesters.

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:

- Utilize various tools to create web based application

3. COURSE OUTCOMES:

- i. Interpret the basics of WWW (World Wide Web) and different Web Browsers.
- ii. Operate Gmail account and Google functionalities
- iii. Create word press based user interface and website
- iv. Create small animations
- v. Operate Microsoft database access for daily applications

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 | Topics and Sub-topics |
|--|---|---|
| Unit – I Web Terminologies | 1a. Define various web terminologies | 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 – III Working with Word press | 3a. Create word press based user interface and website | 3.1 Introduction to wordpress : make a website or a bog using a wordpress, Downloading and Installing wordpress on XAMPP SERVER 3.2 All menus on the Administration Screen |

| Unit | Major Learning Outcomes | Topics and Sub-topics |
|--|---|---|
| | | <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> <p>3.8 Media: Uploading pictures, videos, editing images, publishing them on the websites, embedding videos from YouTube to your website.</p> <p>3.9 Links : Adding New links , Editing the links, Adding categories to the links, Managing Categories</p> <p>3.10 Widgets: Adding, Editing widgets to the theme.</p> <p>3.11 Plugging: Introduction to plug-in, installing plugins, editing plugins.</p> <p>3.12 Social Media Plugins: Floating social networking, social media widget, social media tabs, social media mash up, social networking icons</p> <p>3.13 Users: Managing the accessibility to the website/blog.</p> <p>3.14 Slider: Adding Custom Slider to the themes.</p> |
| <p>Unit – IV Alice, a 3D educational software tool with a drag-</p> | <p>4a. create an animation for telling a story, playing an interactive game, or a video to share on the web</p> | <p>4.1 Code Editor , methods panel , control panel/tiles, scene editor, galleries</p> <p>4.2 Camera Navigation control: turn camera left/right, forward/backward,</p> |

| Unit | Major Learning Outcomes | Topics and Sub-topics |
|---|--|--|
| and-drop interface to create animations. | | Move camera 4.3 Creating first animation : open, save and run the project, add and position objects 4.4 Example using Do in order, on together , Move up, down, forward, backward, right, left 4.5 Examples using control structures 4.6 Using memory variables 4.7 Using user-define procedures 4.8 Add rotation and randomization : Examples of human objects walk, sit, run 4.9 Use keyboard controls 4.10Develop small animation |
| Unit – V Using Microsoft Access | 5a. Create small relational database 5b. Create reports 5c. Import and export data from and to various platforms | 5.1 Creating database, tables, relationship between tables 5.2 Creating queries 5.3 Creating simple reports 5.4 Importing and exporting data in formats such as excel, access database, text file, xml file, pdf file etc. |

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 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 various web terminologies. | 02 |
| 2 | I | Create one sample XML document using different XML technologies. | 02 |
| 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 Drop Box. | 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. Installing themes. Pick a theme that works for what you want to create. Switch your theme, if you change you mind. Make your theme beautiful on computers, phones, and tablets. | 02 |
| 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. | 02 |
| 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. | 02 |
| 13 | III | Create a menu to help visitors navigate your pages and posts. | 02 |
| 14 | III | Install plugins and edit plugins. | 02 |
| 15 | III | Manage users to access your website | 02 |
| 16 | III | Add custom slider. | 02 |
| 17 | IV | Install Alice and understand code editor, scene editor, methods panel, control panel and galleries. | 02 |
| 18 | IV | Add and position objects and use camera navigation control. | 02 |
| 19 | IV | Write, code, debug and test simple programs on alice. | 02 |
| 20 | IV | Write, code, debug and test control statement based programs. | 02 |
| 21 | IV | Write, code, debug and test animations using sub procedures. | 02 |

| | | | |
|--------------|----|---|-----------|
| 22 | IV | Develop and test small animation applications. | 06 |
| 23 | V | Create database and tables, relationships between tables. | 02 |
| 24 | V | Create queries using wizards | 02 |
| 25 | V | Create reports using wizards | 02 |
| 26 | V | Export and import tables, database. | 02 |
| Total | | | 56 |

8. SUGGESTED LIST OF STUDENT ACTIVITIES

Following is the list of proposed student activities like:

- i. Prepare charts
- ii. Search available examples on the internet and re-use to develop it
- iii. Presentation for small developed application of each tool

9. SPECIAL INSTRUCTIONAL STRATEGIES (if any)

- i. Demonstration of each tools using multimedia projector
- ii. Group project for each tool

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. | Microsoft Access 2013 Step by Step | Joan Lambert, Joyce Cox | Microsoft Press 2013 |
| 4. | 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. Soft wares
 - i. Latest version of Wordpress
 - ii. Xampp server
 - iii. Latest version of Alice
 - iv. Latest version of Microsoft Access

b. Learning websites

- i. <http://www.andrew.cmu.edu/user/dslater/screencasts/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/>
- xii. <http://office.microsoft.com/en-in/access-help/learn-the-structure-of-an-access-database-HA001213954.aspx>
- xiii. <http://office.microsoft.com/en-in/access-help/training-courses-for-access-2013-HA104030993.aspx>

11. COURSE CURRICULUM DEVELOPMENT COMMITTEE**Faculty Members from Polytechnics**

1. Prof. R. M. Shaikh, H.O.D Computer Department, K. D. Polytechnic, Patan
2. Prof. K. N. Raval, H.O.D Computer Department, R. C. Technical Institute, Ahmedabad
3. Prof. Manisha P Mehta, Sr. Lecturer in Computer Technology, K. D. Polytechnic, Patan
4. Prof. R. M. Shah, Sr. Lecturer in Computer Technology, Government Polytechnic, Ahmedabad

Coordinator and Faculty Members from NITTTR Bhopal

1. Prof. (Mrs.) Susan S. Mathew
2. Dr. Joshua Earnest