**Name of Institute**: **Indus Institute of Technology and Engineering**

**Name of Faculty:** **Mr.Hiren V Mer**

**Course code:**  **CE0522/IT0522/CS0522**
**Course name:**  **Web Technologies**

Pre-requisites:   Basics of HTML and computer functionalities
Credit points:      4
Offered Semester:   5th

**Course coordinator**
Full name:  Mr.Hiren V Mer
Department with siting location: Computer Engineering
Telephone: 3427
Email:  hirenmer.ce@indusuni.ac.in
Consultation times:   Monday to Thursday 3.10pm to 4.10pm
                                 Friday 11.10am to 4.10pm

**Course lecturer**
Full name:  Mr.Hiren V Mer and Mr.Jignesh s Patel
Department with siting location: Computer Engineering
Telephone: 3427
Email:  hirenmer.ce@indusuni.ac.in
          jigneshpatel.ce@indusuni.ac.in

Consultation times:   Monday to Thursday 3.10pm to 4.10pm
                                 Friday 11.10am to 4.10pm

Students will be contacted throughout the session via mail with important information relating to this course.

**Course Objectives**
By participating in and understanding all facets of this course a student will:

1) To understand the principles and working of computer systems.
2) To Design and develop computer programs in the areas related to algorithms, Networking, web design, cloud computing, I oT and data analytics.
3) Should able to understand the structure and development methodologies of software systems with the use of a various programming languages and open source platforms

## Course Outcomes (CO)

After successful completion of the course, student will able to:
1. Design web pages using HTML, CSS and JavaScript.
2. Understand the concept of DHTML and apply this knowledge to create dynamic effect in website.
3. Explain the role of XML in web communication and will be able to implement XML, DTD,XML Schema and XSLT.
4. Appy Database connectivity in SQL, PHP.
5. Implementation of SESSION and COOKIES and students will know the real time application of session and cookies.
6. Demonstrate File uploading and downloading

## Course Outline
(Key in topics to be dealt)

**UNIT-I**                                                                                      **[12]**
**HTML:** Basics of HTML, HTML5 features and standards
**CSS:** Need for CSS, introduction to CSS, Overview and features of CSS3
**JavaScript:** Client side scripting with JavaScript, variables, functions, conditions, loops and repetition, Pop up boxes, Advance JavaScript: Javascript and objects, JavaScript own objects, the DOM and web browser environments, Manipulation using DOM, forms and validations

**UNIT-II**                                                                                     **[12]**
**DHTML** : Combining HTML, CSS and Javascript, Events and buttons
**XML** Introduction to XML, uses of XML, simple XML, XML key components, DTD and Schemas, Using XML with application. Transforming XML using XSL and XSLT

**UNIT-III**                                                                                   **[12]**
Introduction and basic syntax of PHP, decision and looping with examples, PHP and HTML, Arrays, Functions, Browser control and detection, string, Form processing, Files, Advance Features: Cookies and Sessions, Object Oriented Programming with PHP

**UNIT-IV**                                                                                    **[12]**
Basic commands with PHP examples, Connection to server, creating database, selecting a database, listing database, listing table names, creating a table, inserting data, altering tables, queries, deleting database, deleting data and tables, PHP myadmin and database bugs

## Method of delivery
(Face to face lectures, self study material, Active Learning Techniques)

-Chalk talk lecture
-Projector lecture
-Project implementation
-Online Zoom/webex/Google meet Learning

## Study time
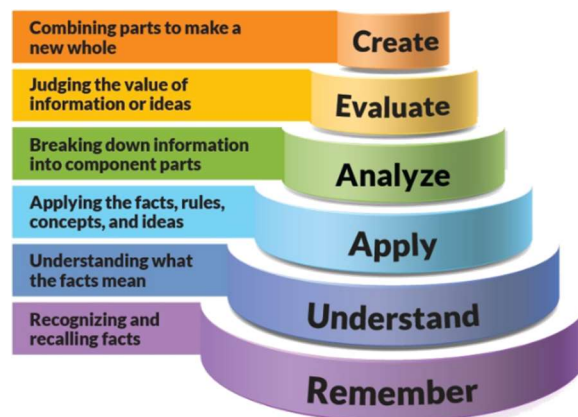(How many hours per week including class attendance)

| Lecture | Tutorial | Practical | Credits |
|---------|----------|-----------|---------|
| 3 | 0 | 2 | 4 |

## CO-PO Mapping (PO: Program Outcomes)

| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| 1 | √ | √ | √ |  | √ |  |  |  |  |  |  |  | √ | √ |  |
| 2 | √ | √ |  |  | √ |  |  |  |  |  |  |  | √ | √ |  |
| 3 | √ | √ | √ | √ |  |  |  |  | √ | √ |  |  | √ | √ |  |
| 4 |  | √ | √ |  | √ |  |  |  | √ |  | √ |  |  | √ | √ |
| 5 |  |  | √ | √ | √ |  |  |  | √ |  | √ |  |  | √ | √ |
| 6 | √ | √ | √ |  |  |  |  |  |  |  |  |  |  | √ | √ |

## Blooms Taxonomyand Knowledge retention(For reference)

(Blooms taxonomy has been given for reference)
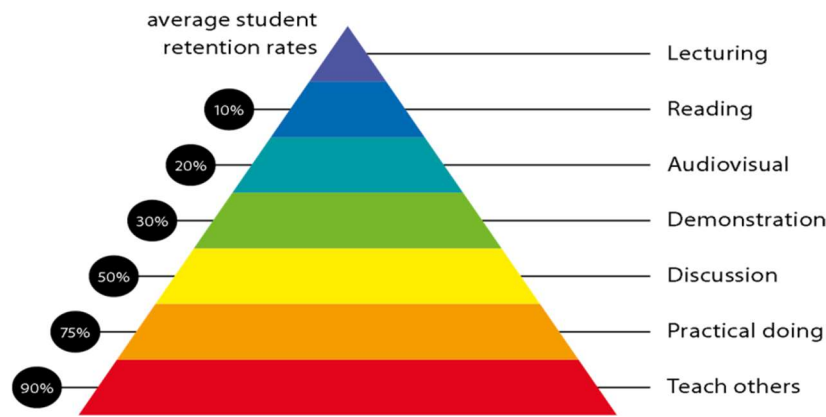


Figure 1: Blooms Taxonomy

**Figure 2: Knowledge retention**

## Graduate Qualities and Capabilities covered
(Qualities graduates harness crediting this Course)

| General Graduate Qualities | Specific Department of _____Graduate Capabilities |
|---|---|
| **Informed**<br>Have a sound knowledge of an area of study or profession and understand its current issues, locally and internationally. Know how to apply this knowledge. Understand how an area of study has developed and how it relates to other areas. | **1 Professional knowledge, grounding & awareness** |
| **Independent learners**<br>Engage with new ideas and ways of thinking and critically analyze issues. Seek to extend knowledge through ongoing research, enquiry and reflection. Find and evaluate information, using a variety of sources and technologies. Acknowledge the work and ideas of others. | **2 Information literacy, gathering & processing** |
| **Problem solvers**<br>Take on challenges and opportunities. Apply creative, logical and critical thinking skills to respond effectively. Make and implement decisions. Be flexible, thorough, innovative and aim for high standards. | **4 Problem solving skills** |
| **Effective communicators**<br>Articulate ideas and convey them effectively using a range of media. Work collaboratively and engage with people in different settings. Recognize how culture can shape communication. | **5 Written communication**<br>**6 Oral communication**<br>**7 Teamwork** |

| Responsible | 10 Sustainability, societal & |
|---|---|
| Understand how decisions can affect others and make ethically informed choices. Appreciate and respect diversity. Act with integrity as part of local, national, global and professional communities. | environmental impact |

## Practical work:

(Mention what practical work this Course involves)

## Practical-1

**Aim:-**Introduction to web 2.0, website, web portal, domain name, networking concepts. Introduction to internet, hosting of website, server configurations and maintenance.

## Practical-2

**Aim:-**Create a website layout using table structure which consist of space/locations for Logo, Search, News, Events, Content area, etc.

## Practical-3

**Aim:-**Create a resume using CSS(You may use any CSS(internal,external,inline))

## Practical-4

**Aim:-**Demonstrate the various border style and its property and various text decoration property with examples.

## Practical-5

**Aim:-**Write a JavaScript which will take a number from prompt box and calculate a square of number starting from 0 to Num-1 and stored those number and square of number into table

## Practical-6

**Aim:-**Write a JavaScript program to demonstrate window object and screen object and its property.

## Practical-7

**Aim:-**Assume that you are having 5 images. Write a DHTML program which allows you to see image in sequence by pressing previous and next button and all images rotate automatically when

page is load and also put a stop button which stop the automatic rotation of images

## Practical-8

**Aim:-**Consider the following data.. Make the element Mark sheet, a root element having the sub elements Exam_name ,Exam_no,Semester,Branch,Subject(Subject has also its sub elements Sub_name , Mark_ obtain)

a) Write a xml file marksheet.xml for above data
b) Write a DTD and XML Schema for above marksheet.xml file
c) Convert marksheet.xml file into HTML table format using XSLT.

## Practical-9

**Aim:-**Demonstrate the following array.

a) create a php script which will store the country and it's capital in associative array. print all country and it's capital for following case.
   case 1 ascending order sort by
   value case 2 ascending order
   sort by key case 3 descending
   order sort by value case 4
   descending order sort by key

b) create a php script that will store 5 emp contacts detail like first name email and mobile in multidimensional array and print all employee detail.(Hint used index + associative array in multidimensional)

## Practical-10

**Aim:-**Write a php script which will Demonstrate the used of SEESION and COOKIES with example.

## Practical-11

**Aim:-**Write a php program using phpmyadmin and database for following query.

a) Insert
b) Select
c) Update
d) Delate

## Practical-12

**Aim:-**Create a login/logout application using session and database.Lecture/tutorial times

(Give lecture times in the format below)

| *Example:* | | | |
|---|---|---|---|
| Lecture | Monday | 10:00 – 11:00 am | Online Google Meet |
| Lecture | Tuesday | 2:00 – 3:00 pm | Online Google Meet |
| Lecture | Wednesday | 10:00 – 11:00 am | Online Google Meet |
| Lecture | Wednesday | 2:00 – 3:00 pm | Online Google Meet |
| Lecture | Thursday | 2:00 – 3:00 pm | Online Google Meet |
| Lecture | Friday | 10:00 – 11:00 am | Online Google Meet |

## Attendance Requirements

The University norms states that it is the responsibility of students to attend all lectures, tu

## Text books

1. Developing Web Application, Ralph Moseley, - Wiley India

2. Head First HTML with CSS & XHTML By Eric T Freeman, Elisabeth Freeman, Elisabeth Robson
3. Developing Web Applications in PHP and AJAX by Harwani, McGrawHill

## Additional Materials

Class notes and assignment will be given to student in class room.

## ASSESSMENT GUIDELINES
Your final course mark will be calculated from the following:

| Theory [ Total -100] | Practical [ Total -100] |
|---|---|
| **CIE Total :60**<br>Mid Semester Exam: 40 Marks<br>Attendance: 05 Marks<br>Presentation: 05 Marks<br>Assignment:10 Marks | **CIE Total 60**<br>Project:40 Marks<br>Attendance:10 Marks<br>Practical file :10 Marks |
| ESE total: 40 Marks | ESE total 40 Marks |

## SUPPLEMENTARY ASSESSMENT

Students who receive an overall mark less than 40% in internal component or less than 40% in the end semester will be considered for supplementary assessment in the respective components (i.e internal component or end semester) of semester concerned. Students must make themselves available during the supplementary examination period to take up the respective components (internal component or end semester) and need to obtain the required minimum 40% marks to clear the concerned components.

## Practical Work Report/Laboratory Report:
A report on the practical work is due the subsequent week after completion of the class by each group.

## Late Work
Late assignments will not be accepted without supporting documentation.  Late submission of the reports will result in a deduction of -% of the maximum mark per calendar day

## Format
All assignments must be presented in a neat, legible format with all information sources correctly referenced.  **Assignment material handed in throughout the session that is not neat and legible will not be marked and will be returned to the student.**

## Retention of Written Work
Written assessment work will be retained by the Course coordinator/lecturer for two weeks after marking to be collected by the students.

## University and Faculty Policies
Students should make themselves aware of the University and/or Faculty Policies regarding plagiarism, special consideration, supplementary examinations and other educational issues and student matters.

**Plagiarism** - Plagiarism is not acceptable and may result in the imposition of severe penalties.   Plagiarism is the use of another person's work, or idea, as if it is his or her own - if you have any doubts at all on what constitutes plagiarism, please consult your Course coordinator or lecturer. Plagiarism will be penalized severely.

*Do not copy the work of other students.*
*Do not share your work with other students (except where required for a group activity or assessment)*

## Course schedule(subject to change)
**(Mention quiz, assignment submission, breaks etc as well in the table under the Teaching Learning Activity Column)**

| Week # | Topic & contents | CO Addressed | Teaching Learning Activity (TLA) |
|---|---|---|---|
| Weeks 1 | Basics of HTML, HTML5 features and standards | CO1 | Chalk ,PPT,Online tool |
| Weeks 2 | Need for CSS, introduction to CSS | CO1 | Chalk ,PPT,Online tool |
| Week 3 | Overview and features of CSS3 | CO1 | Chalk ,PPT,Online tool |
| Week 4 | Client side scripting with JavaScript, variables, functions, | CO1 | Chalk ,PPT,Online tool |
| Week 5 | conditions, loops and repetition, Pop up boxes, | CO1 | Chalk ,PPT,Online tool |
| | | | |
| Week 6 | Advance JavaScript: Javascript and objects, JavaScript own objects, the DOM and web browser environments, | CO1 | Chalk ,PPT,Online tool |
| Week 7 | Manipulation using DOM, forms and validations | CO1 | Chalk ,PPT,Online tool |
| Week 8 | **DHTML** : Combining HTML, CSS and Javascript, Events and buttons | CO2 | Chalk ,PPT,Online tool |
| Week 9 | **XML** Introduction to XML, uses of XML, simple XML, XML key components, DTD and Schemas, Using XML with application. Transforming XML using XSL and XSLT | CO2 | Chalk ,PPT,Online tool |
| Week 10 | Introduction and basic syntax of PHP, decision and looping with examples, PHP and HTML, Arrays, Functions, | CO1 ,CO2 | Chalk ,PPT,Online tool |
| Week 11 | Browser control and detection, string, Form processing, Files, , Advance Features: Cookies and Sessions, Object Oriented Programming with PHP | CO4,CO5 | Chalk ,PPT,Online tool |

| | | Basic commands with PHP examples, Connection to server, creating database, selecting a database, listing database, | CO4,CO5 | Chalk ,PPT,Online tool |
|---|---|---|---|---|
| Week 12 | | | | |
| Week 13 | | listing table names, creating a table, inserting data, altering tables, queries, deleting database, deleting data and tables, PHP myadmin and database bugs | CO5 ,CO6 | Chalk ,PPT,Online tool |



Subject Mind Mapping