

**Faculty of Computers and Information Technology**

**Design of Web-Based Applications**

**Information :**

**Course Code :** CS495

**Level :** Undergraduate

**Course Hours :** 3.00- Hours

**Department :** Digital Media Technology

**Area Of Study :**

- "Apply the basic concepts and theories of computing and information.
- "Combine and evaluate different tools and facilities.
- "Demonstrate professional responsibilities, ethical, cultural and societal aspects.
- "Understand knowledge that enhances skills in Web programming.
- "Use and adopt fundamental and advanced techniques in all development phases of Web-based applications.
- "Comprehend deeply the basic concepts of Web technologies to be ready for further and continuous learning

**Description :**

The course gives an introduction to the design, creation, and maintenance of web pages and websites. This course focuses on creating a Web application architecture that is maintainable and extensible using website development aiding tools. Topics include basic HTML, Client / Server programming, Server side controls, the concept of design patterns and use them effectively in creating an extensible Web presentation infrastructure, Brief overview Web services

**Course outcomes :**

**a.Knowledge and Understanding: :**

1 -	Explain modeling of Web-based application.
2 -	Discuss different qualitative and quantitative methods for Web-based application
3 -	Explain the principles and techniques of Human-Computer Interaction using emerging technologies and tools
4 -	Discuss the fundamental topics for developing Web applications

**b.Intellectual Skills: :**

1 -	Analyze and design a solution for Web-based application
2 -	Analyze different problems for Web-based application
3 -	Select appropriate methodologies and techniques for computing and information systems
4 -	Classify methods, techniques and algorithms of computer and information systems

**c.Professional and Practical Skills: :**

1 -	Apply effective information to apply and design basic HTML/CSS, Client / Server programming and different supporting tools
2 -	Create technical reports using scientific literature and web sources
3 -	Use human computer interaction principles in the construction and evaluation of user interfaces for wide ranges of applications.

**d.General and Transferable Skills: :**

1 -	Apply communication skills in presentations and report writing using various methods and tools
2 -	Work in a team to develop the requirement documentation

**ABET Course outcomes :**

1 -	Analyze, design, and implement web-based application for given requirements.
2 -	Enhance Human-Computer Interaction using emerging technologies and tools
3 -	Demonstrate basic proficiency of using Scripting Languages to develop web pages.
4 -	Use server-side development tools to design and develop web-based applications, using one of current development tools.
5 -	Use an advanced object-oriented programming language to develop dynamic web pages.
6 -	Use advanced Database Management Systems to design and integrate databases in web-based applications.
7 -	Use advanced tools to enhance the performance of web-based applications.
8 -	Work and communicate effectively in a team and apply professional ethics of the field.

**Course Topic And Contents :**

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction to the Internet and World Wide Web	4	2	2
Evolution of the Web, Web 2.0.	4	2	2
Design and Development of static Web pages using XHTML	4	2	2
Enhancing Human-Computer Interaction Using Scripting Languages	4	2	2
Enhancing Visualization Using Cascading Style Sheets (CSS)	4	2	2
Developing Web Applications Using C# and ASP.NET	4	2	2
Information Structuring, Formatting and Management Using XML	4	2	2
XSL, XSLT, and XPath	4	2	2
Mid Term	2		
Enhancing Dynamic Web Pages Using Ajax	4	2	2
Web Services	4	2	2
Project presentation	4	2	2
Project presentation	4	2	2
Final Exam	2		

**Teaching And Learning Methodologies :**

Interactive Lectures including discussion
Practical Lab Sessions
Self-Study (Project / Reading Materials / Online Material / Presentations)

**Course Assessment :**

Methods of assessment	Relative weight %	Week No	Assess What
Final Exam	40.00	14	

Midterm Exam (s)	30.00	9	
Practical Exam	15.00		
Presentations	5.00		
Team Work Projects	10.00		

**Course Notes :**

Course Notes are available with all the slides used in lectures in electronic form on Learning Management System (Moodle)

**Web Sites :**

[www.ekb.eg](http://www.ekb.eg)