School of Information Sciences & Technology
Computer Science Department

ICS 222 : Web Programming Concepts
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COURSE OUTLINE

PREAMBLE
The Internet is the fastest and largest platform ever created for humans to learn, communicate, share, or create businesses of any kind and as the part played by Internet in our daily life increases so does the importance of methods and means of Web site realization. This course is devoted to a survey Web site development with special emphasis being assigned to mark-up and scripting languages for both client- and server-side programming and will also include designing with web standards, accessibility, usability, and site development and management.

AIM
This course aims to develop a high degree of competence as a web developer by skill development in web programming including mark-up and scripting languages and designing techniques required for full website development.

OBJECTIVES
- ✓ In-depth understanding of the workings of the world wide web (web architectureUnderstand the basics web design and development concepts
- ✓ Understand the principles of designing a dynamic web page with validation using JavaScript objects and by applying different event handling mechanisms
- ✓ To learn principles and techniques of client-side programming with HTML, CSS, and JavaScript
- ✓ To learn principles and techniques of server-side programming with node.js, PHP & MySQL
- ✓ To learn about different web frameworks available for web programming
- ✓ To develop knowledge of the most recent web technologies and how to better apply them in web development projects

COURSE CONTENT

UNIT I – Website and Development Basics
- Internet technologies Overview
- Understanding Websites and Web Servers
- Understanding Web development fundamentals
- Setting up development environments

UNIT II – Basic Front-End Programming (HTML & CSS)
- An introduction to HTML5
- HTML Site Building
- An introduction to CSS3
- CSS Site Styling

UNIT III – Interactive Front-End Programming (JavaScript)
- An introduction to JavaScript
- JavaScript Responsive Websites
- Using JavaScript to Build Web Applications
- Front-End Frameworks Demonstrations I.e. React and React Native

UNIT IV - Sever Side Programming (Node.Js & PHP)

- An introduction to PHP
- PHP Site frameworks
- Introduction Node.js
- Managing Data MySQL Database

UNIT V – Web Application Development

- Web Applications in Context
- Web Services & RESTful APIs
- Web Applications Frameworks

UNIT VI: Deployment

- Deploying websites to Heroku,
- GitHub Pages and Firebase.
- Web Development Career Paths.
- The future of the Web i.e. Accelerated Mobile Pages.
- The Native or Hybrid Questions. Discussing Company Choices. JavaScript

TEACHING METHODOLOGIES

- Lectures
- Practical Lab Sessions
- Tutorials,

COURSE ASSESSMENT

Course work:		**(40%)**
a. 2 Quiz Tests	15%	
b. 5 Practical Assignments	25%	
Final examination:		**(60%)**

COURSE MATERIAL

References

1. www.W3Schools.org
2. Jeffrey C. Jackson, *Web Technologies A computer Science Perspective*, Pearson, 2011
3. Paul Wellens, *Practical Web Development*, Packt Publishing (July 30, 2015)
4. https://www.tutorialspoint.com/internet_technologies

PRACTICAL RESOURCES

i. WAMP/XAMP Server
ii. Node.js
iii. Visual Studio Code,
iv. Notepad 2/ Textpad 4 /Sublime /Notepad++