

# Web Development Syllabus

Frequency: Three times a week, 3 and a half hours per class

## Week 1

### **Fundamentals of Computer Science.**

Introduction and definition, Hardware Systems, Operating Systems, Programming Languages, Computer Applications, Software Development, Networks, Computer Graphics, Digital Media, Computer Animation, Artificial Intelligence

### **Introduction to the Internet.**

Internet Resources, Newsgroups, File transfer protocol, World Wide Web, Netiquette, Accessing the Internet, Hypertext and hyperlinks, Uniform resource locator, Search techniques, Boolean phrases, Viruses, Virus protection software

### **Introduction to Web Site Development WordPress.**

Uploading WordPress to your web server, Installing WordPress, Database Connectivity, Theme Customization, Configuring WordPress, Creating and managing content, Installing and updating plugins, WordPress Security / backup / domain transfers, Migration From Different Platforms, (Joomla, Magento) Optimization of WordPress Website, On Page SEO

## Week 2

### **Back / Front End Web Site Development.**

HTML5, New elements and their use, Page structure, CSS3 Preprocessors, CSS frameworks bootstrap, foundation, JavaScript, Script fundamentals, 3rd party libraries, jQuery libraries and patterns, W3C validation, Deployment & DevOps , SSH / SFTP, C Panels, Moving a CMS to a different server, Heroku

## Week 3

### **Back / Front End Web Site Development Cont.**

Databases, Data Relationships Designing a Data Model, Relational Databases, Alternative Databases, Entity Relationship Modeling (ERM), SQL, NoSQL, NodeJS, Express + APIs, JSON, AJAX

## Week 4

### **Computer Programming Languages**

Java, object-oriented language, Java virtual machine, syntax, C#, multi-paradigm language, NET Framework., PHP, syntax, Visual Basic, Python, Perl, Ruby, Ruby on Rails.

## **Week 5**

### **Server Side, Apache Web Server**

HTTP Overview, Caching, Compressing, Custom Error Pages, Redirects, HTTPS / TLS, Cookies, PHP Overview, PHP Web Application

## **Week 6**

### **Server Side, Apache Web Server Cont.**

HTTP Overview, Caching, Compressing, Custom Error Pages, Redirects, HTTPS / TLS, Cookies, PHP Overview, PHP Web Application

## **Week 7**

### **Mobile/ Responsive web site design.**

Units of Measurement, Media Queries, Making Images and Videos Responsive, Designing Responsive Forms, Providing an App-Like Experience, Web App Interface, Widgets with Bootstrap, Collapsible Content for Mobile

## **Week 8**

### **Mobile/ Responsive web site design. Cont.**

Units of Measurement, Media Queries, Making Images and Videos Responsive, Designing Responsive Forms, Providing an App-Like Experience, Web App Interface, Widgets with Bootstrap, Collapsible Content for Mobile

## **Week 9**

### **Design Thinking User-Interface UI**

Interface Concept Ideation, User Journey, Information Architecture and User Experience, Interface Design

## **Week 10**

### **User Experience and Design UX**

Workflow for designing a site, user experience principles, design principles