

CSC 365 Client-Side Web Development

Partial Syllabus

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Course Description:

Developing applications for the World Wide Web focusing on client-side languages; introduction to current principles, standards, and best practice in website design, usability, accessibility, and management through project-based skills; development in HTML5, CSS, JavaScript, JQuery, AJAX, RESTful web services; assessment of current frameworks. May be paired with CSC 465, Server-Side Web Development, offered spring 2020 for a complete understanding of web development.

Prerequisite: CSC 231 or permission of instructor

Required Text:

TBD

Student Learning Outcomes (taken from ACM):

1. Design and Implement a simple web application. [Usage]
2. Describe the constraints that the web puts on developers. [Familiarity]
3. Compare and contrast web programming with general purpose programming. [Assessment]
4. Describe the differences between Software-as-a-Service and traditional software products. [Familiarity]
5. Discuss how web standards impact software development. [Familiarity]
6. Review an existing web application against a current web standard. [Assessment]

Topics

- **Web Fundamentals:** Internet protocols, DNS, HTTP, Browsers, the Client-Server Model, Static vs Dynamic sites, web applications vs. desktop applications
- **HTML5:** syntax, structure, semantic elements, referencing methods, tables, forms, accessibility
- **CSS:** cascade, text-styling, the box-model, normal flow, positioning vs. floating, approaches to layout, responsive design, frameworks and preprocessors
- **JavaScript:** output, control elements, objects and prototypes, functions, the Document Object Model, events, JavaScript frameworks
- **JQuery:** event-handling, DOM manipulation, effect and animation, AJAX, asynchronous file transmission
- **XML Processing and Web Services:** using JSON in JavaScript, RESTful web services, creating and consuming web services
- **Search Engine Technologies:** web crawlers and scrapers, indexing and reverse indexing, PageRank and result order, measures of similarity, white-hat and black-hat SEO