Certificate in HTML5, CSS3 & Responsive Design for Web Development

HTML5 Application Programming Interfaces (APIs) (300) Syllabus

Contact Information
Instructor: David Anderson
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Course Description:
This course covers the major JavaScript APIs in the HTML5 standard, which you can use to create rich multimedia Web sites and applications that shine on a wide range of devices. The course will also client-server communication and typical server APIs.

Course Learning Objectives:
You will be able to

- write simple, effective JavaScript
- use the jQuery library
- use maps and geolocation in Web sites
- use AJAX to communicate with a server
- store and retrieve data
- draw on the page using SVG graphics

Course Format:
Classes will combine lectures, discussions, and student presentations. You will explore each topic in weekly homework assignments. You will also give a class presentation.

Course Materials:
These books are not required, but you will find them valuable.

Eric Freeman & Elizabeth Robson, *Head First JavaScript Programming*, O'Reilly, 2014 (ISBN: 978-1-449-34013-1) is a good introduction to JavaScript and several of the topics in this course.

Jon Duckett, *JavaScript & jQuery*, Wiley, 2014 (ISBN: 978-1-118-53164-8) is another good introduction to JavaScript, with good coverage of jQuery.

David Herman, *Effective JavaScript*, Addison-Wesley, 2012 (978-0-321-81218-6) explains many aspects of the language as it details best practices and patterns.

Bruce Lawson & Remy Sharp, *Introducing HTML5*, New Riders, 2011 (978-0-321-68729-6) surveys most of what's new in HTML5, including most of the APIs we will discuss.

Lecture notes will be online at https://pacific-meadow-64112.herokuapp.com/ and will include links to a more documentation and resources.

This class will also have an online forum where we can share ideas, questions, solutions, and information. I will participate, but I encourage you to help each other and to feel free to ask for help.

Technical Requirements:
This is a hands-on course with in-class programming exercises as well as assignments to be completed outside of class. Students will be required to bring a laptop.

Many of the course topics and most modern Web development also pertain to mobile devices, so please bring any smart phones and tablets you can.

Schedule: Topics and Assignments by Date:
April 6: Introductions. Review of JavaScript
April 13: jQuery
April 20: More JavaScript
April 27: Geolocation and mapping
May 4: Best JavaScript practices
May 11: Local storage. XML & JSON
May 18: Client-server communication with AJAX
May 25: Templates
June 1: SVG graphics
June 8: Student presentations

Student Assessment:
UW Professional & Continuing Education courses require at least 80% attendance, i. e. eight of the ten classes in this course.

Your primary assignment for this class is to develop a Web site of your own devising. The subject matter, content, styling, and behavior will be up to you. The site(s) should display your command of modern, semantic HTML, CSS, and some of the JavaScript coding techniques and APIs you have been learning in this course.

Homework will be assigned most weeks and will usually require creating one or more simple Web pages. You should create a project in GitHub for all of these assignments. Each assignment can go in a subdirectory. You should also deploy those Web sites on your Web server, Heroku, or GitHub Pages, as discussed for your Final Project.

There will be eight homework assignments. You are required to complete at least five (5) of these. That will give you a few free weeks to devote to your Final Project, should you need them.

All homework is due prior to the beginning of the next class. This deadline is strict because I will be discussing our solutions in that class. If you are unable to complete the everything successfully, submit whatever you have anyway. I am pretty generous with partial credit; my concern is more with your effort than your ability to fix every bug.

Policies and Values:
Our class is a community. I will spend much more time at the front of the room than you, but your active participation will benefit you, your classmates, and me. Anytime a question comes to mind, ask; someone else is probably wondering the same thing. Your contributions are more than welcome; they are essential. Feel free to disagree with me and with each other. But do so respectfully.

Ultimately your work needs to be your own—otherwise you learn nothing—but it is fine to ask or look for help. If you do borrow some code, from a classmate, contributor to StackOverflow, or elsewhere, be sure you understand what it does and why it solves your problem, and add a comment in your code citing the source. That said, please do share and help each other.