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Catalog description:

3 Credits Prerequisites: COP 3530 and COP 3813 (strictly enforced)
To develop hands-on knowledge of the latest web development tools, languages and models. Students will develop projects consisting of innovative Web-based solutions. Topics include: characteristics and foundations of Rich Internet Applications (RIAs), server-side technologies and languages, client-side technologies and languages, usability and human factors, and content sharing tools and technologies.

Course goals:

- To provide a solid conceptual understanding of the main technologies associated with the Web 2.0
- To enable a hands-on experience by developing web-based projects using the latest tools, languages, techniques, and best practices
- To study AJAX in depth and create AJAX-capable websites
- To examine the technical aspects associated with contemporary web-based actions such as: social networking, (micro) blogging, podcasting, building mashups, and content sharing, tagging and rating.

Textbook combo:


Course outline:

1. Motivation – the need for an improved Web development platform
2. A quick review of the main Web 1.0 technologies, languages, and standards (XHTML and XHTML validation, CSS and separation between presentation and content, XML, JavaScript, DOM, PHP, MySQL)
3. Web 2.0 and Rich Internet Applications (RIAs)
4. AJAX fundamentals
5. AJAX toolkits, editors, frameworks, and libraries
6. Professional AJAX – fundamentals, examples and best practices
7. Mashing up with AJAX: The mashup ecosystem, open web APIs and AJAX
8. Server-side languages, technologies and frameworks
9. Content sharing tools and technologies
11. Case studies and success stories
Grading Policy: Grades will be determined primarily from the following:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Mini-projects (4):</td>
<td>60 %</td>
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<tr>
<td>Fun assignments:</td>
<td>10 %</td>
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<td>Final project:</td>
<td>30 %</td>
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Practical Projects:
This is a hands-on course. During the first 10 weeks of the semester, students will work on 4 (four) individual mini-projects (MPs) as follows:

- **MP 1**: a Web 1.0 site using XHTML and CSS
- **MP 2**: form validation and processing, Web 1.0 style (adding PHP, MySQL, and JavaScript to MP1)
- **MP 3**: first AJAX-based website (DOM, JavaScript, and XMLHttpRequest)
- **MP 4**: a mashup (bringing pieces and bits of your favorite web services – e.g., Google Maps, Yahoo Traffic, Flickr, Digg, Amazon, etc. – together)

Additionally, students will be assigned one or more “fun assignments” that refer to the social layer of Web 2.0. These may include: setting up a blog, creating an account on Flickr, exploring tagging and rating in sites such as del.icio.us, or exploring a social networking web site, such as Facebook.

Towards the end of the term, students will work (in groups) to develop a complete web-based solution (a Rich Internet Application, RIA) which ideally should encapsulate the knowledge acquired in the course. This final project may (and ideally should) integrate pieces and bits developed for the mini-projects.

On the technical side, the final project should consist of:
- server-side functionality (databases, scripts, server configuration and security aspects)
- client-side functionality (web page design, form validation, usability aspects, multimedia), and
- principled use of AJAX (with the possibility of using libraries and toolkits)

For the graduate-level (5930) students, the final project must also include a detailed analysis of the business aspects of the proposed new site/company/service (target audience, revenue sources, innovative aspects, competition, etc.). Students will be encouraged to develop a small-scale version of a web-based site inspired by a contemporary success story.

Course Home Page: A home page containing relevant information and useful links for the course is available at: [http://blackboard.fau.edu/](http://blackboard.fau.edu/).