| Course Information* | Course Title: **95881 Web Application Development**  
Instructor: Dr. Michael Bigrigg (bigrigg@andrew.cmu.edu) |
|---------------------|--------------------------------------------------|
| Prerequisites (if applicable) | This course assumes no significant programming exposure, and is more highly structured to support the students that may or may not have a significant programming background.  

The course 95-882, Enterprise Web Development, does assume some previous programming experience, and is less structured, for example it supports more flexibility in the choice of course project. The course content will be different, meaning 95-881 is not a subset of 95-882. |
| Description* | The web browser has become a major platform for application development, and its development is fundamentally different from traditional general purpose programming. This course focuses on the fundamentals of web development using the browser as a platform with a focus on the client-side web application. The students in pairs or individually will design and develop a web application over the lifetime of the course.  

The development aspect will include HTML, Javascript and Javascript libraries, such as jQuery. This is not simply a programming course. A major emphasis is on the use of web programming patterns to enhance the front end user experience with established features. Patterns include input validation, featured content, coach marks, natural language input, recommendations, and others. The programming will include how to implement these features that are designed specifically for the front-end web, namely to enhance the user experience. |
| Course Materials | Introduction to JavaScript Programming with XML and PHP (Drake)  
UXPin Web UI Design Patterns 2014 (Not the later editions) |
| Learning/Course Objectives* | 1. Understand the development of a client-side browser based web application including its capabilities and limitations.  
2. Develop skills in client-side web application development technologies including HTML, Javascript, and Javascript libraries.  
3. Design a web application using web programming patterns to enhance the front end user experience.  
4. Create a functioning web application suitable for portfolio presentation. |
| Grading Scale (Minimal) | A+  100%  
A  93 - 99%  
A-  90 - 92%  
B+  87 - 89%  
B  83 - 86%  
B-  80 - 82%  
C+  77 - 79%  
C  73 - 76%  
C-  70 - 72%  

Grading mistakes may occur. Please contact the TA who graded your assignment about grading mistakes. It will be up to the TA to handle the initial complaint. If you are still not satisfied with the TA’s grade after you speak with them, please contact me immediately. |
### Evaluation Method

The final grade will be out of 100%. There is no late allowances.

- 30% Final Exam
- 40% Programming Project
- 25% Quiz
- 5% Lab Activity

### Course/Topical Outline:

**General Class Format:**
- 30 min, Web Application Development Big Picture
- 30 min, Web Programming Patterns for the Front End
- 10 min break
- 50 min, Programming Lecture
- 20 min, Quiz on Last Week’s Programming Material
- 30 min, Hands-on Lab Activity

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<th>Week</th>
<th>Big Picture Topics</th>
<th>Programming Topics</th>
<th>Quiz</th>
<th>Pattern Topic</th>
<th>Lab Activity</th>
<th>W3 Schools Review</th>
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<td>Intro &amp; Events</td>
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<td>Q0</td>
<td>Getting Started &amp; Don’t Crowd</td>
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<td>HTML Tutorial &amp; HTML Forms</td>
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<td>Web 2.0</td>
<td>Ch 2-5 Variables, Programming, Forms &amp; DOM</td>
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<td>Input Help &amp; Controls</td>
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<td>Ch 6-9 JavaScript Programming</td>
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<td>Special Topic: Ads</td>
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There will be a Canvas site for the course. Grades will be posted there and assignments will be submitted there. We will also make good use of the discussion board. It is far better to post a question to the discussion board than it is to send your instructor or TA an email. Answers posted there are available for all to see.
| **Course Policies & Expectations** | **Students with Disabilities:**  
Our community values diversity and seeks to promote meaningful access to educational opportunities for all students. CMU and your instructors are committed to your success and to supporting Section 504 of the Rehabilitation Act of 1973 as amended and the Americans with Disabilities Act (1990). This means that in general no individual who is otherwise qualified shall be excluded from participation in, be denied benefits of, or be subjected to discrimination under any program or activity, solely by reason of having a disability. If you believe that you need accommodations for a disability, please contact us ASAP, and we will work together to ensure that you have the correct access to resources on campus to assist you through your coursework and time at CMU.  

**Academic Integrity:**  
Carnegie Mellon University sets high standards for academic integrity. Those standards are supported and enforced by students, including those who serve as academic integrity hearing panel members and hearing officers. The presumptive sanction for a first offense is course failure, accompanied by the transcript notation “Violation of the Academic Integrity Policy.” The standard sanction for a first offense by graduate students is suspension or expulsion. Please see [http://www.cmu.edu/academic-integrity/](http://www.cmu.edu/academic-integrity/) for any questions.  

**Cell Phones, Smartphones and other handheld wireless devices:**  
Other than during class breaks, please silence ring tones and refrain from engaging in calls, messaging or other use during class time. All devices must not be visible in any way during quizzes.  

**Policy Regarding Students Using English as a Foreign Language:**  
Assignments in this course are graded with reference to evidence of the acquisition of concepts, presentation format, and accuracy of information. Having done business in countries that use languages other than English, we understand that the use of an unfamiliar language can result in unusual word choices or grammatical errors that are not critical to the overall understanding of the information. Therefore, we will take into account your need to function in a language that may be unfamiliar to you. We will provide feedback as appropriate if we feel that language or grammar you have used in assignments would be best if it were configured in a different way.  

**Use of SU Blackboard System for this course:**  
The Heinz School uses Carnegie Mellon University’s Blackboard system to facilitate distance learning as well as to enhance main campus courses. In this course, we will use the Blackboard system generally to post lecture notes and related documents and to receive assignments electronically from students. To access Blackboard go to [www.cmu.edu/blackboard](http://www.cmu.edu/blackboard).  

**Take care of yourself.** Do your best to maintain a healthy lifestyle this semester by eating well, exercising, avoiding drugs and alcohol, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress. All of us benefit from support during times of struggle. You are not alone. There are many helpful resources available on campus and an important part of the college experience is learning how to ask for help. Asking for support sooner rather than later is often helpful. If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, we strongly encourage you to seek support. Counseling and Psychological Services (CaPS) is here to help: call 412-268-2922 and visit their website at [http://www.cmu.edu/counseling/](http://www.cmu.edu/counseling/). Consider reaching out to a friend, faculty or family member you trust for help getting connected to the support that can help.  

We welcome feedback during and after the course. Students are encouraged to share life-experiences in class. We are open to suggestions about class sequences, changes to the content and additional topics to cover. |