Course: COMP 431 / COMP 531
Term: Fall 2017
Lecture Room: Duncan Hall 1070
Lectures: TTH, 2:30-3:50

Course Title

Web Development (COMP 431 / COMP 531)

Instructor Contact Information

Instructor: Mack Joyner, Duncan Hall 2071, mjoyner@rice.edu
Office Hours: See https://www.clear.rice.edu/comp431

Course Objectives and Learning Outcomes

In this project-based course, students create multi-user Web applications utilizing many of the latest Web design technologies. Students are involved in all aspects of application development including front-end and back-end programming. Students learn and exercise industry best practices including test driven development and version control, and they explore modern Web structural frameworks.

The desired learning outcomes for the course are

- **Front-End Development:** fundamental understanding of the hypertext transfer protocol; describe how dynamic web pages are served to clients; demonstrated ability to design hypertext markup language pages utilizing cascading style sheets; analyze a web application in terms of the model-view-controller architectural pattern; combine JavaScript libraries, frameworks, and custom implementations to create dynamic web pages.
- **Back-End Development:** fundamental understanding of various working components of a web server and how they interact; understanding of key database concepts including solutions for distributed database systems; create and query databases; analyze data transfer paradigms and implement selected data serialization techniques; compose various web services and custom implementations into a unified web application.
- **Software Engineering Practices:** describe the test driven development paradigm; utilize unit testing frameworks during code development; organize the implementation of software techniques through software design discussions. Class time for the course includes descriptions of key topics, live demonstrations of technologies, discussions, and time for students to work on their individual Web applications. By the end of the course, students develop a fully functioning multi-user Web application satisfying a collection of user and feature requirements, and gain the hands-on knowledge and experience to create forward-looking cutting-edge Web applications.

The graduate section of the course contains the following additional learning outcome that will be achieved through paper and presentation: the evaluation and comparison of different web applications, web application designs, and web structural frameworks in regards to usability, efficiency, maintainability, and security.

Required Texts and Materials

There are no required textbooks for the class. Instead, there will be a collection of suggested books that can be used to supplement lectures and online documentation. Students are expected to have access to a computer to complete the assignments.

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GRADE POLICIES

Grading will be based on your performance on homeworks (weighted 50% in all), one final project (weighted 15%), in-class exercises (weighted 15% in all), quizzes (weighted 10% in all) and final paper/presentation (weighted 10%). Additional grading policies will be posted on the course web site listed below.

Final letter grades will be assigned as follows:
97-100: A+, 93-96: A, 90-92: A-, 87-89: B+, 83-86: B, 80-82: B-, etc…

We might curve up. We won't curve down.

ABSENCE POLICIES

If a student misses a lecture, they are expected to inform the instructor, review the lecture material on their own, and complete and submit the in-class exercise for the lecture before the start of the next lecture for partial credit (0.5 points). Slip days for late homeworks submissions will be announced in class and posted on the course web site.

RICE HONOR CODE

In this course, all students will be held to the standards of the Rice Honor Code, a code that you pledged to honor when you matriculated at this institution. If you are unfamiliar with the details of this code and how it is administered, you should consult the Honor System Handbook at http://honor.rice.edu/honor-system-handbook/. This handbook outlines the University's expectations for the integrity of your academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process.

The following policies will apply to different work products in the course:

- In-class exercises: You are free to discuss all aspects of in-class exercises with your other classmates, the teaching assistants and the instructor during the class. You can work in a small team of 2 or 3 students. This work is shared work that all students of the team may use for their class assignments, but the work should not be shared with other class members. If you work on the exercise outside of class (e.g., due to an absence), then it must be entirely your individual effort, without discussion with any other students.
- Homeworks, Final Project, Paper/Presentation: The paper, final project and all submitted homeworks are expected to be the result of your individual effort. You are free to discuss course material and approaches to problems with your other classmates, the teaching assistants and the instructor, but you should never misrepresent someone else's work as your own. If you use any material from external sources, you must provide proper attribution.
- Quizzes: Each online quiz will be an open-notes individual test. The student may consult their course materials and notes when taking the quizzes, but may not consult any other external sources.

DISABILITY SUPPORT SERVICES

If you have a documented disability or other condition that may affect academic performance you should: 1) make sure this documentation is on file with Disability Support Services (Allen Center, Room 111 / adarice@rice.edu / x5841) to determine the accommodations you need; and 2) talk with me to discuss your accommodation needs.

SYLLABUS CHANGE POLICY & COURSE WEB SITE

This syllabus is only a guide for the course and is subject to change with advanced notice. The latest syllabus information for the course will always be available at the course web site, http://www.clear.rice.edu/comp431.