

CSCI 446: Web Applications

Winter/Spring 2011, **online**

Yong Joseph Bakos
231 Chauvenet Hall
(303) 653-3017
ybakos@mines.edu

Office hours are Tues / Thurs 1 – 4PM and by appointment.

Course Web home: <http://mines.humanoriented.com/classes/2011/spring/csci446/>

Prerequisite: CSCI 445 Web Programming

Text: [Agile Web Development with Rails](#), 3rd ed. Ruby, Thomas, Hannsson. Pragmatic Bookshelf. 2009

Course Objectives

The goal of this course is to provide the senior-level student with the skills and experience necessary to qualify for an entry-level Web application engineering job using popular postmodern tools and architectures. Topics include:

- UI design & programming with XHTML, HTML5, CSS, JavaScript and the DOM
- Model-View-Controller and other design patterns
- Application development with the Rails framework
- Database management with SQLite (and other RDBMSes)
- RESTful Web services design and implementation
- Client-side AJAX with JavaScript, Scriptaculous and jQuery
- RIA applications with Adobe FLEX
- Best practices in software engineering, deployment, and “DevOps”
- Ruby!

Grading

- Participation 20%
- Projects 50%
- Midterm 15%
- Final 15%

Attendance/Participation

As this is an online class, your participation is even more important than a traditional “meatspace” lecture. (If you don’t know what meatspace is, you should read [Neuromancer](#) by William Gibson). This boils down to one simple idea: **post frequently on Ore.**

Projects

The best way to gain experience building Web applications is to, that’s right, *build Web applications*. We are going to build as many applications as possible this semester, approximately one per week. Each project assignment is designed to illustrate a specific lesson regarding postmodern best practices in Web development. You will be allotted approximately one week for each project.

Exams

One take-home midterm exam will be conducted the week of March 7, 2010.

A take-home final exam will be conducted during the week of May 8, 2010.

A makeup examination can be arranged only when a student has an emergency (eg, medical emergency or urgent family matter). The student may be asked to provide the instructor with an appropriate document, such as a doctor's note.

Accommodation

If you need certain accommodation based on disability, talk to the instructor in person so that appropriate arrangements can be made.

Course Schedule

This schedule is not fixed in stone and is subject to change according to the actual progress of the course.

<u>Week</u>	<u>Lecture</u>	<u>Reading*</u>
1	Introduction, History, a Taste of Ruby	_why's Poignant Guide
2	HTTP, Forms, Dive into Rails	Rails 1 – 4, Zombies
3	Application 1, Depot: Rails Fundamentals	Rails 5 – 13, Railscasts
4	Application 2, Articles: MVC	Rails 14 – 15, Railscasts
5	Application 3, Blog: ActiveRecord	Rails 16 – 17, Railscasts
6	Application 4, Secure Blog: gems, etc	Rails 18 – 19, Railscasts
7	Application 5, TBA: haml, sass, compass	Rails 20 – 21, Railscasts
8	Application 6, TBA: The Rails Way	Rails 22 & 24, Railscasts
9	Midterm	
10	(Spring Break)	
11	Application 7, TBA: Deployment, Production	TBA, Railscasts
12	Application 8, TBA: REST & Web Services	Rails 25, Railscasts
13	Application 9, TBA: AJAX w/ Scriptaculous	Rails 23, Railscasts
14	Application 9, TBA: AJAX w/ jQuery	TBA, Railscasts
15	Application 10, TBA: RIA w/ Adobe Flex	TBA
16	Application 10, TBA: RIA w/ Adobe Flex	TBA
17	Application 11, Final Project (Dead Week)	TBA
18	Final Exam	

* Chapters noted are from textbooks and provided pdfs and are provided here merely as a guide.

On Collaboration & Academic Integrity

Students are encouraged to discuss and collaborate as much as possible. However, it is obviously not acceptable to copy another student's solution. Your work must be your own. In addition, simply copying solutions found online is not acceptable. Be aware that homework assignments, project and midterm will not just focus on producing correct code, but explaining how things work.

Please see the Student Handbook for details on academic dishonesty. No exceptions will be made for students found simply giving away or taking another's solutions.

Academic Integrity Pledge

Being enrolled in this class means that you pledge to uphold the high standards of academic ethics and integrity expressed by the Colorado School of Mines Student Honor Code by which you are bound. In particular, you will not misrepresent the work of others as my own, nor will you give or receive unauthorized assistance in the performance of academic coursework. You should understand that my instructor will report any infraction of academic integrity to the Department Head and that any such matter will be investigated and prosecuted fully.