

METROPOLITAN STATE UNIVERSITY OF DENVER
Office of Academic and Student Affairs

Form Rev. 9/2015

OMNIBUS* COURSE SYLLABUS

College or School of: Letter, Arts, and Sciences

Department: Mathematical and Computer Sciences

Instructor: Steve Beaty

Prefix and Course Number: CS 390

Semester/year offered: Spring, 2016

Banner Number (for Academic and Student Affairs use): CS 390P

(Students registering after Census date will be ineligible for the COF stipend and must pay the full tuition for the omnibus course. Please see COF-FAQ for details regarding registration deadlines: http://www.mscd.edu/news/col/cof_faq.htm)

Course Title (30 characters or less): Web Application Architecture

Schedule Type: L

Grade Mode: Letter

Credit Hours: 4 (4+0+0)

Total Contact Hours per semester (assuming 15-16 week semester):

Lecture 60 Lab _____ Internship _____ Practicum _____ Other (specify type and hours): _____

Additional Student Work Hours: 120

Meeting Times/Dates: M/W 10:00 – 11:50

Prerequisites: CS 2050 with a grade of C" or better, or permission of instructor

Corequisites: _____

Prerequisite(s) or Corequisite(s): _____

Banner Enforced:

Prerequisite(s): CS 2050 with a grade of C" or better

Corequisite(s): _____

Prerequisite(s) or Corequisite(s): _____

Approved - Omnibus course:	
<u>YBPacker</u>	<u>11.11.2015</u>
Department Chair OR Program Director	Date
<u>Heather Elmgren Perathoner</u>	<u>11/16/15</u>
Dean OR Associate Dean of School	Date
<u>[Signature]</u>	<u>12-1-15</u>
Office of Academic and Student Affairs Designee	Date

*Policies as set forth in the *MSU Denver Curriculum Manual* must be followed. A copy of the omnibus course syllabus must be on file in the Office of Academic and Student Affairs prior to the listing of the course in any semester schedule.

Registration restrictions: Level UG Class _____ Program/Major _____ Student Attribute _____

Course Description:

Modern web application architectures differ dramatically from those that came before. Such architectures allow the rapid prototyping, development, and deployment of fully functional web applications. These architectures also allow deployment on various platforms including traditional computers, tablets, and smart phones. This course will introduce you to the various parts of a modern web application by your creating several.

Required Reading Materials

Ruby, S. and Thomas, D. (2013) *Agile Web Development with Rails 4, October 11, 2013*. Pragmatic Programmers ISBN-13: 978-1937785567 ISBN-10: 1937785564,

Evaluation of Student Performance:

A combination of the following:

1. Homework and Programming Assignments
2. Quizzes and Examinations
3. Research Papers and/or Book Reports
4. Oral Presentations
5. Final Examination

Specific Measurable Student Behavioral Learning Objectives:

Upon successful completion of this course the student will be able to:

1. Understand and implement the following.
 - a. Each part of a web application's MVC.
 - b. Web services.
 - c. Session management with authentication and authorization.
 - d. Object – Relational Model.
 - e. URL routing.
 - f. AJAX
2. Have a detailed understanding of the Document Object Model (DOM) and use JavaScript and JavaScript libraries to manipulate the DOM
3. Use an MVC framework in the DOM
4. Use server-side templates.
5. Implement several server-side languages and frameworks.
6. Perform both client- and server-side validations.

Detailed outline of course content (major topics and subtopics) or outline of field experience/ internship (experience, responsibilities and supervision):

(*format – I, A, 1, a, etc.*)

- I. Object-Oriented languages for web applications.
 - a. Ruby.
 - b. JavaScript.
 - c. Python.

- II. Functional languages for web applications.
 - a. Erlang.
 - b. Scala.
 - c. Clojure.
- III. Full-stack frameworks such as the following
 - a. Ruby/RoR
 - b. PHP/Laravel
 - c. JavaScript/Ember
 - d. JavaScript/node.js
 - e. Groovy on Grails
 - f. JavaScript/Meteor
 - g. Python/Django
 - h. Java/GWT
 - i. Erlang/ChicagoBoss
 - j. Scala/Lift
 - k. Clojure/Luminus
- IV. Browser frameworks such as the following.
 - a. jQuery
 - b. Angular
 - c. Backbone
 - d. Bootstrap

A Note on Human Subjects Research: If the omnibus course includes *research* involving human subjects and/or identifiable private information, MSU Denver's Institutional Review Board (IRB) policies and procedures may apply. Guidelines for the protection of human subjects and requirements for IRB oversight are available here: www.msudenver.edu/irb.

Any plans to conduct human subjects research must be addressed in the course syllabus OR a statement must be attached that describes how IRB procedures have been, or will be, followed by the course instructor and/or the student. The Office of Academic & Student Affairs' approval cannot be given for an omnibus course syllabus that appears to involve human subjects research unless appropriate information is provided.

ADA SYLLABUS STATEMENT

The Metropolitan State University of Denver is committed to making reasonable accommodations to assist individuals with disabilities in reaching their academic potential. If you have a disability which may impact your performance, attendance, or grades in this class and are requesting accommodations, then you must first register with the Access Center, located in the Plaza Building, Suite 122, 303-556-8387.

The Access Center is the designated department responsible for coordinating accommodations and services for students with disabilities. Accommodations will not be granted prior to my receipt of your faculty notification letter from the Access Center. Please note that

accommodations are never provided retroactively (i.e., prior to the receipt of your faculty notification letter.) Once I am in receipt of your official Access Center faculty accommodation letter, I would be happy to meet with you to discuss your accommodations. All discussions will remain confidential. Further information is available by visiting the Access center website www.msudenver.edu/access.
