

BOSTON UNIVERSITY
METROPOLITAN COLLEGE
COMPUTER SCIENCE DEPARTMENT

**MET CS 701 A Rich Internet Application Development
Spring 2022**

Lectures in the classroom

Class meets on Wednesdays, 6-8:45 PM EST, Kenmore Classroom Building
(KCB), room 104

First class on January 26, 2022

Course Introduction

The Rich Internet Application (RIA) Development course concentrates primarily on building rich client web applications in the browser for desktop and mobile devices. The course is divided into various modules covering in depth the following technologies: HTML5, AngularJS, and Ionic framework. Along with the fundamentals underlying these technologies, several applications will be showcased as case studies. Students work with these technologies starting with simple applications and then examining real world complex applications. At the end of this course, students would have mastered the latest and widely used RIA methodologies.

Course Prerequisites

CS520 (*Information Structures*) and **CS601** (*Web Application Development*), or instructor's consent.

Course Learning Objective:

By successfully completing this course you will be able to:

- Understand the properties of Rich Internet Applications (RIA)
- Study the development of these applications in various frameworks
- Process external data (XML & JSON) and visualize data in web applications
- Inspect popular Web 2.0 mashups like Flickr, Mapquest, Twitter, etc.

Teaching Approach:

- **Lectures:**
 - During the lectures we will introduce key concepts and techniques and illustrate them with code snippets.

- Concepts introduced in each lecture will be followed by an assignment during which you will master those concepts and techniques.
- All lectures will be delivered in person by the instructor but they will also be recorded as a Zoom session with recordings made available after the class.

Prerequisites

- Basic aptitude for mathematics, probability, and statistics.
- Basic familiarity with one of modern programming languages.
- JavaScript will be introduced as if you have no experience with that language. JavaScript will be used throughout the course.

Learning Materials

Recent and most relevant books in the field will be referenced but you will not be required to purchase them,

Evaluation and Grading

Lecture material (papers) should be reviewed before the next class. The reading assignments should be done before the lecture, and then carefully studied afterwards. All assignments must be legible, well formatted, submitted on time and complete. 10% penalty per day will be applied for every late assignment, without any exceptions.

Homework assignments are issued once a week and are due in 7 days.

Every student will implement a final project. All final projects are individual efforts. Some topics will be offered by the instructor, but you could propose your topic. All final project materials will be shared with the entire class. Selected students will present their final projects to the entire class.

The final exam will be open Internet. You will be required to come to the classroom and do your exam there. At the end of the exam, you will zip your project (exam) folder and upload it to the class BlackBoard. No late submissions will be allowed.

Grades will be based on:

Class Participation	5%
Homework	50%
Final Project:	20%
Final Exam	25%

Academic Honesty

The course is governed by the Academic Conduct Committee policies regarding plagiarism (any attempt to represent the work of another person as one's own). This includes copying (even with modifications) of a program or segment of code. You can discuss general ideas with other people, but the work you submit must be your own. Collaboration is not permitted.

Instructor Information

Dr. Zoran B. Djordjevic

Computer Science Department, Metropolitan College,

Boston University,

1010 Commonwealth Ave

Boston, MA 02215

Email: zdjordje@bu.edu. Email is the preferred method of communication

Schedule of Lectures

Class	Date	Lectures
1	01/26/22	Advance JavaScript <ul style="list-style-type: none">• JavaScript functions, JSON, Constructors, Inheritance• Scopes, Patterns, Namespaces.
2	02/02/22	HTML5 <ul style="list-style-type: none">• HTML5 Overview, Graphics (Canvas & SVG)• Audio & Video, Forms
3	02/09/22	HTML5 <ul style="list-style-type: none">• Drag and Drop, Geolocation• Web Workers, Web Storage
4	02/16/22	HTML5 <ul style="list-style-type: none">• IndexedDB• Server Sent Events and WebRTC
5	02/23/22	Angular 1 <ul style="list-style-type: none">• Overview, Controllers, Scope, Model, and Views
6	03/02/22	Angular 1 <ul style="list-style-type: none">• Modules, Filters, Directives, and Services• Routing and Components
	03/09/22	No class. Spring recess
7	03/16/22	Typescript and Node.js <ul style="list-style-type: none">• Language Overview,• Functions,• Interfaces• Classes & Modules
8	03/23/22	Angular (2) <ul style="list-style-type: none">• Components• Directives and Pipes
9	03/30/22	Angular <ul style="list-style-type: none">• HTTP• Routing
10	04/06/22	Angular

		<ul style="list-style-type: none"> • Observables • Services and • View Components
11	04/13/22	Ionic Framework <ul style="list-style-type: none"> • Overview, Project Structure • Components, Component APIs and Service APIs
	04/20/22	No class. Substitute day for Monday classes
12	04/27/22	Ionic Framework <ul style="list-style-type: none"> • Ionic Native, Storage • Theming
13	05/04/22	Final Project presentation
14	05/11/22	Final Exam