CS 4790 ASP.NET MVC Core 3.0 Web Programming
Spring 2020 (Hybrid Format)
Weber State University School of Computing

Instructor Information

Dr. Richard Fry, Professor of Computer Science

I have been a faculty member of Weber State University's School of Computing for more than 19 years, and although I am friendly and approachable, I want to keep our relationship in this course professional. As such, **I prefer to be addressed by my title of Professor or Dr. Fry** rather than just my first or my last name only.

Office Location: WSU Main Campus, Elizabeth Hall, Room 383 (School of Computing)

Office Hours: See Calendar. Most (not all) Mon/Wed 9AM – 11AM & Tue/Thur 10AM-1PM
Other times by scheduled Virtual Meetings: https://zoom.us/s/3921896336

E-mail: rfry@weber.edu **Do not use Canvas to message me (e-mail me directly for fastest response)**

Physical Class Meetings Tuesdays/Thursdays 7:30 AM – 9:20 AM (dates vary – see schedule)
WSU Main Campus Technical Education Bldg. – Room 104

Accommodations

Any student requiring accommodations or services due to a disability must contact Services for Students with Disabilities (SSD) in room 181 of the Student Services Center. SSD can also arrange to provide course materials (including this syllabus) in alternative formats if necessary.

Course Description

This CS capstone course is designed to teach sound concepts in ASP.NET Web Application Development using a repository software design pattern. Students will develop small-scale web applications both individually and in a team environment using Agile Software Development techniques. Representative skills mastered in this course will include: ASP.NET programming with C#, RAZOR, Bootstrap, JavaScript, and jQuery, as well as integration of SQL Server databases within the .NET Entity Framework. Students will also practice version control using Git Hub. **Prerequisites:** CS 3550 and CS 3750, and CS 3280 (recommended).

Course Delivery/Hybrid Format

This course is hybrid, meaning you will only be required to meet in person 30% (9 out of the 30 scheduled class periods), with a majority of the learning and course work accomplished outside of class. **Attendance (worth 3%) will be factored into your final grade <u>after Spring Break</u>.** During the first nine weeks of the course, all students will individually spend time (both in and out of class) learning the ASP.NET Core 3.x framework as well as reviewing (or learning for the first time) C#, database fundamentals (including Entity Framework & LINQ), along with User focus on the User Interface, implementing Bootstrap, AJAX, and jQuery plus other software engineering principles like Security, Authentication, Unit Testing, and advanced version control using Git Hub. This training will be specifically targeted to providing students the individual skills (and practice) necessary to successfully complete a real world group capstone project during the last six weeks of the course– with instructor support and office hours (both online and in person) available during this time.

Course Objectives

- Learn to design the architecture and implementation of a web application that will meet a set of functional requirements, user interface requirements, and address business models.
- Learn to create class models and write code that implements business logic and data access within model methods, properties, and events.
- Learn to effectively and securely manage user interaction and dynamic web page content.
- Learn to create Razor Pages in an ASP.NET CORE 3.x Application that display and edit data and interact with data storage and complex view models representing the business logic.
- Learn to implement a consistent look and feel across a responsively designed web application.
- Learn to use partial page updates and caching to reduce the network bandwidth and accelerate responses to user requests.
- Learn to integrate Web APIs and understand why developers might add a Web API to an application.
- Describe how to test, package and deploy an ASP.NET CORE 3.x web application from a development computer to a web server for staging or production.

Course Fees

Course fees for the Computer Science major are designed to cover the costs of lab equipment maintenance and replacement including desktop and server computer systems and software; consumable materials and supplies; and support for lab aides, student tutors, and online instructional resources such as your Pluralsight subscription.

Course Materials and Software

There is not a required textbook for this course, as most of the material presented is relatively new. We will be utilizing and referencing several external sources and websites for support.

YOU MUST HAVE YOUR OWN COMPUTER IN CLASS WITH REQUIRED SOFTWARE INSTALLED – Visual Studio 2019* Community Edition (https://visualstudio.microsoft.com/vs/community/) or the Enterprise Version (better) available free for students through the Azure Student Starter). Note there is also a special version of Visual Studio for Mac (there are minor differences and small workarounds, but in the past students have been able to use this version with very few issues). The PC edition is the preference. **During setup, you'll be asked to select the workloads you want to install. Make sure you select ASP.NET under the Web and Cloud section as well as Data Storage and Processing in the data section**. If you already installed Visual Studio prior to reading this, you can go back and run the Visual Studio Installer (separate program) to go back and modify your installation. ****Important:** Also install the Git Hub extension for Visual Studio https://visualstudio.github.com/

*VS 2019 version is required as it supports the new .NET Core 3.1 SDK.

If you do not have your own PC or Mac for class, see me for options.

Class Meetings and Required Attendance

Live Class Presentations (see calendar) will be streamed online and recorded. If you miss or cannot physically attend class, the video recordings from that day's class will be available "on demand" for you to watch and catch up on your own. However, as all individual assignments will coincide with completing the work we do together during class (in a timely manner), **it will be to your advantage to do this work at the same time I present it in class** (so you can ask questions and get assistance in a timely manner).

Tentative Hybrid Schedule (void after 1/6/2020. ALWAYS FOLLOW LIVE CALENDAR)

Live Classes are also streamed online. Attendance is not required prior to March 10th, but strongly encouraged.

All Individual Homework is due by 11:59PM (on a Monday or a Wednesday).

PHYSICAL ATTENDANCE REQUIRED: March 10, 12, (24 or 26), 31, April 2, (7 or 9), 14, 16, and (21 or 23)

Week	Monday	Tuesday	Wednesday	Thursday	Fri - Sun
Jan 6-12	Office Hours 9AM-1PM Recorded Videos – Welcome	JAN 7-Live Class	Special Online Office Hours 10AM-4PM	JAN 9-Live Class Office Hours 9:30-1:30	Movie 1
Jan 13-19	Recorded Videos – Curry in Hurry 1		JAN 15-Movie 1 Due*	Pluralsight & Contoso 1	
Jan 20-26	Recorded Videos – Curry in Hurry 2		JAN 22-Pluralsight & Contoso 1 Due*	Curry in Hurry 1&2, Pluralsight	
Jan 27-Feb 2	JAN 27–Curry 1&2 Due* Office Hours 9-11	JAN 28-Live Class Office Hours 10-1	Office Hours 9-11	JAN 30-Live Class Office Hours 10-1	Movie 2
Feb 3-9	Office Hours 9-11	FEB 4-Live Class Office Hours 10-1	FEB 5 – Movie 2 Due* Office Hours 9-11	FEB 6-Live Class Office Hours 10-1	Curry in Hurry 3&4
Feb 10-16	FEB 10-Curry 3&4 Due*	Recorded Videos – Curry in Hurry 5			Pluralsight, Contoso 2
Feb 17-23	FEB 17- Pluralsight & Contoso 2 Due*	Recorded Videos – Curry in Hurry 6			Curry in Hurry 5&6
Feb 24-Mar 1	Recorded Videos – Restful API's with AJAX and JSON		FEB 26 - Curry 5&6 Due* Office Hours 9-11	FEB 27-Live Class Office Hours 10-1	Movie 3
Mar 2-8	***SPRING BREAK WEEK *** WORK ON MOVIE 3 (Online Office Hours Available)				
Mar 9-15	Office Hours 9-11	MAR 10-Live Class PROJECT KICKOFF ATTENDANCE REQUIRED Office Hours 10-1	MAR 11 – Movie 3 Due* Office Hours 9-11	MAR 12-Live Class SPRINT 1 WORK ATTENDANCE REQUIRED Office Hours 10-1	Sprint 1
Mar 16-22	***NO CLASS MEETINGS OR OFFICE HOURS THIS WEEK *** WORK ON PROJECT SPRINT 1 WITH TEAM OUTSIDE OF CLASS				MAR 22 – Sprint 1 Lockdown
Mar 23-29	Office Hours 9-11	MAR 24 - SPRINT1 PRESENTATIONS TEAMS 1-3	← ATTENDANCE REQUIRED EITHER DAY→	MAR 26 - SPRINT1 PRESENTATIONS TEAMS 4-6	Sprint 2
Mar 30 - Apr 5	Office Hours 9-11	MAR 31-Live Class SPRINT 2 WORK ATTENDANCE REQUIRED Office Hours 10-1	Office Hours 9-11	APR 2-Live Class SPRINT 2 WORK ATTENDANCE REQUIRED Office Hours 10-1	APR 5 – Sprint 2 Lockdown
Apr 6-12	Office Hours 9-11	APR 7 - SPRINT 2 PRESENTATIONS TEAMS 1-3	← ATTENDANCE REQUIRED EITHER DAY→	APR 9 - SPRINT 2 PRESENTATIONS TEAMS 4-6	Sprint 3
Apr 13-19	Office Hours 9-11	APR 14-Live Class SPRINT 3 WORK ATTENDANCE REQUIRED Office Hours 10-1	Office Hours 9-11	APR 16-Live Class SPRINT 3 WORK ATTENDANCE REQUIRED Office Hours 10-1	APR 19 – Sprint 3 Lockdown
Apr 20-23 Final's Week		APR 21-SPRINT 3 PRESENTATIONS TEAMS 1-6 ATTENDANCE REQUIRED			

*** 1% per hour Late Penalty applies for all individual assignments submitted after the due date.**

After 4 days (96 hours), the assignment will receive a zero, and a solution will be provided so the student to continue.

Grading Criteria

Individual Assignments – 60% (240 out of 400 points) *Late Penalties of 1% per hour apply		
Movie Assignment 1, Skills Inventory, Repository, and Setup	Due NLT 11:59PM WED JAN 15	15
Pluralsight Progress Check and Contoso Tutorial Part 1	Due NLT* 11:59PM WED JAN 22	25
Curry in a Hurry Parts 1&2	Due NLT* 11:59PM MON JAN 27	25
Movie Challenge 2	Due NLT* 11:59PM WED FEB 5	50
Curry in a Hurry Parts 3&4	Due NLT* 11:59PM MON FEB 10	25
Pluralsight Progress Check and Contoso Tutorial Part 2	Due NLT 11:59PM MON FEB 17	25
Curry in a Hurry Parts 5&6	Due NLT 11:59PM WED FEB 26	25
Movie Challenge 3	Due NLT* 11:59PM WED MAR 11	50
Team Project – 40% (160 out of 400 points)**		
Sprint 1 Code Lockdown and Project Management	Due NLT 11:59PM SUN MAR 22	Team 5
Sprint 1 Presentation Sprint 1 Deliverables and Sprint 2 planning Doc	In class TUES MAR 24 OR THURS MAR 26 Due NLT 11:59PM THUR MAR 26	Team 20
Sprint 1 Individual Peer Evaluations adjustments		Ind +/- 2o
Sprint 1 Instructor Adjustments for Individual Code Commits (including Attendance and Team Participation Outside of Class March 10, 12, 17th and 19th)		Ind +/-5
Sprint 2 Code Lockdown and Project Management	Due NLT 11:59PM SUN APR 5	Team 5
Sprint 2 Presentation Sprint 2 Deliverables and Sprint 2 Test Results	In class TUES APR 7 OR THURS APR 9 Due NLT 11:59PM THUR APR 9	Team 25
Sprint 2 Individual Peer Evaluations adjustments		Ind +/-20
Sprint 2 Instructor Adjustments for Individual Code Commits (including Attendance and Team Participation March 31st and April 2nd)		Ind +/-5
Sprint 3 Code Lockdown and Project Management	Due NLT 11:59PM SUN APR 20	Team 5
Sprint 3 Presentations and Deliverables Sprint 3 Deliverables, Final Repository, and Peer Evaluations	In class TUE APR 22 Due NLT 11:59PM TUE APR 22	Team 20
Sprint 3 Individual Peer Evaluations adjustments		Ind +/-20
Sprint 3 Instructor Adjustments for Individual Code Commits (including Attendance and Team Participation April 14th and 16th)		Ind +/-10
4.0 Grading Scale >378 points= A, 358-377 = A-, 346-357 = B+, 326-345 = B, 318-325 = B-, 310-317 = C+, 290*-309 = C *Minimum passing grade is 71.5% (286 or more points)		**Total Points Possible 400**

**** What an individual student actually earns on the 40% team project above will be subject to an individual adjustment (+/-) based on the peer evaluations, code commits and attendance/participation.** In other words, during each Sprint deliverable, if a student's personal contribution to the project is substantially below (or above) the team average, then the individual student grade on each sprint will be adjusted to reflect this, regardless of what grade the team itself receives. **Thus, it is possible for a student to fail the class even if the students' team project receives an A. It is also possible for an individual student to still get an A, even if the team project receives a B (or less).**

Last Updated 6 Jan 2020