CS 4790 ASP.NET MVC Core 3.x Web Programming
Fall 2020 (Asynchronous Online Delivery)
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.** rather than just my first or my last name only.

Office Location: WSU Davis Campus, D4, Room 168 (School of Computing)

Live Online Class Meetings: Tuesdays/Thursdays 9:30 AM – 11:20 AM

& Virtual Office Hours (appointment preferred)**:** Mondays 3-5PM & Wednesdays Noon-3PM

→ **https://weber.zoom.us/my/dr.fry** ←

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

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 or MVC software design pattern. Students will develop small-scale web applications both individually and as a team using Agile Software Development techniques. Representative skills mastered in this course will include: ASP.NET programming with C#, Razor Pages, Bootstrap, JavaScript (jQuery), API calls, and AJAX, as well as integration of SQL Server databases within the .NET Core 3.x Framework. Students will also practice version control using Git Hub. **Prerequisites:** CS 3550 and CS 3750, and CS 3280 (recommended).

Course Delivery

This course is delivered asynchronously online. **Attendance will be factored into your final grade.** During the first eight 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), implementing Bootstrap, AJAX, and jQuery while practicing sound 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 seven weeks of the course– with instructor support and office hours (online) available during this period.

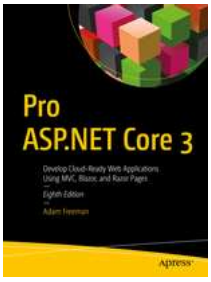
Course Objectives

- 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 manage user interaction and dynamic web page content effectively and securely.
- 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



REQUIRED BOOK: Pro ASP.NET Core 3 (June 2020). ISBN: 978-1-4842-5440-0
FREE Online*: https://learning.oreilly.com/library/view/pro-aspnet-core/9781484254400
*Note: This book is available in electronic format for FREE, via Safari Books Online with an active Internet connection (no downloading of content allowed). No login is required if logging on from Weber's network on campus. From off campus, you will need to login through the WSU's library website to access the Safari materials for free, via proxy. https://www.oreilly.com/library/view/temporary-access/

YOU MUST ALSO HAVE YOUR OWN COMPUTER FOR THIS CLASS WITH REQUIRED SOFTWARE INSTALLED
Visual Studio 2019* Community Edition (https://visualstudio.microsoft.com/vs/community/) or, even better, the Enterprise Version which is available free for students through the Azure Student **Starter** (different from regular Azure for students). 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, of course, the preference. **I will NOT support (and you should not use) Visual Studio 2020 RC1 in this course, as it introduces unknown compatibility issues.** **During setup of Visual Studio, you will 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 (a 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, or cannot install this software, see me for options.

Class Meetings and Required Attendance

Live Class Presentations (see calendar) will be broadcast online at https://weber.zoom.us/my/dr.fry (and recorded). If you miss or cannot virtually attend the live presentations, the video recordings from that day's class will still be available "on demand" for you to watch and catch up on your own. However, as each week's assignments will build upon and coincide with completing the work we do together during class (the previous week), **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).

Discussion (and Help) Forum Tool

Piazza is our 3rd party online forum tool, which we will use to communicate and provide clarity / help on assignments.

- **Accessing Piazza:** To access the forum, click the Piazza link on Canvas (on the menu on the left). I will add your official Weber emails to Piazza before the class starts. Once class starts, please make sure that your primary <wsu_username>@mail.weber.edu email address is listed in the Piazza settings as either the preferred or one of the "other" email addresses.
- **Class-related communications:** Make sure to use Piazza, rather than email or Canvas messages, for ALL class-related communications. I can miss email messages but am careful about checking messages on piazza and making sure that your questions are answered in a timely fashion. Most importantly, by asking questions on Piazza, you can benefit from the collective knowledge of your classmates as well. For this reason, I encourage you to ask questions publicly, rather than privately to the me, as that maximizes your chances to get a prompt reply and, most importantly, allows your classmates to see questions, answers, and discussions that can benefit them. In fact, sometimes I wait before responding to posts because I want to encourage student responses and discussions as well.
- **Anonymous posts:** I strongly discourage the use of anonymous posts on Piazza, as they do not foster a collaborative environment. (As an FYI, please note that anonymous posts are anonymous to your fellow students, but not to me.)
- **Duplicate posts:** Please make sure to check the existing posts before asking a question: duplicated posts waste everyone's time. For similar reasons, you should also make sure to read the assignments carefully before posting questions about them on Piazza. Finally, many of the questions I receive on Piazza can be answered with a simple web search, so please make sure to try that before posting on Piazza, which frees up resources for more interesting questions, answers, and discussions.
- **My response time on Piazza:** I do my best to respond to Piazza messages daily. If you don't get an answer to a post within 36 hours, feel free to post a follow-up, but please avoid doing so a few hours after posting (i.e., I do my best to be responsive on Piazza, but the forum is not a 24/7 hotline :-). Again, I strongly encourage student responses and helping one another (but do not post full solutions of code).

Grading Criteria

- In class demos (<u>including</u> attendance and completing any "wrap up" assigned after class) – 15%[1,2]
- Pluralsight Training – 5%[1]
- Contoso Tutorial – 5%[1,2]
- Sports Store Tutorial – 10%[1,2]
- My Collection – 20%[1]
- Team Project Sprint 1 – 7.5% (and a -7.5% to + 8.25% individual adjustment) [3]
- Team Project Sprint 2 – 7.5% (and a -7.5% to + 8.25% individual adjustment) [3]
- Team Project Sprint 3 – 7.5% (and a -7.5% to + 8.25% individual adjustment) [3]

Grading Scale 94.5-100 = A, 89.5-94.4 = A-, 86.5-89.4 = B+, 81.5-86.4 = B,
79.5-82.4 = B-, 77.5-79.4 = C+, 72.5*-77.4 = C *Minimum passing grade is 72.5%.

[1] A 1% per hour late penalty applies for submissions after the due date. After 96 hours (4 days), the assignment is worth zero points. No exceptions. Work ahead and not to the due dates.

[2] If late or incomplete, a solution will be provided (after late penalty) so the student can continue.

[3] Everyone on the team with receive the same base grade for the Sprint (worth 7.5%). However, all individuals are subject to an additional 50% adjustment (+/-) based on peer reviews. Thus, it is theoretically possible for an individual student to receive zero points on a sprint deliverable if his/her teammate felt they did not contribute. In addition, an individual may exceed the maximum and earn extra credit if he/she went "above and beyond" during the sprint by doing extra and/or leading the team.

Tentative Schedule (void after 8/24/2020. ALWAYS FOLLOW LIVE CALENDAR)

Live Classes are streamed online. Attendance and Participation is factored into your grade.
All Individual Homework is due by 11:59PM (on a Monday or a Wednesday).

First Eight Weeks (Individual)

Week	Monday	Tuesday	Wednesday	Thursday	Fri – Sun Homework
Aug 24-30		Aug 25-Live Class	Aug 26- Virtual Office Noon-3PM	Aug 27-Live Class	Class Demos & Pluralsight
Aug 31-Sept 6	Aug 30 - Virtual Office 3PM-5PM Class Demos 1&more Due	Sep 1-Live Class	Sep 2- Virtual Office Noon-3PM Pluralsight Due	Sep 3-Live Class	Class Demos & Contoso 1, Sports Store 7
Sept 7 - 13	Sep 7 – LABOR DAY Class Demos 2&more Due	Sep 8-Live Class	Sep 9- Virtual Office Noon-3PM Contoso 1 Due	Sep 10-Live Class	Class Demos, Sports Store 8, My Collection 1
Sept 14 - 20	Sep 14- Virtual Office 3PM-5PM Class Demos 3&more Due	Sep 15-Live Class	Sep 16- Virtual Office Noon-3PM Sports Store 7&8 Due	Sep 17-Live Class	Class Demos, My Collection 1 & Contoso 2
Sept 21 - 27	Sep 21- Virtual Office 3PM-5PM My Collection 1 Due Class Demos 4&more Due	Sep 22-Live Class	Sep 23- Virtual Office Noon-3PM Contoso 2 Due	Sep 24-Live Class	Class Demos, Sports Store 9, My Collection 2
Sept 28 – Oct 4	Sep 28- Virtual Office 3PM-5PM Class Demos 5&more Due	Sep 29-Live Class	Sep 30- Virtual Office Noon-3PM Sports Store 9 Due	Oct 1-Live Class	Class Demos, Sports Store 10, My Collection 2
Oct 5 - 11	Oct 5- Virtual Office 3PM-5PM My Collection 2 Due	Oct 6-Live Class	Oct 7- Virtual Office Noon-3PM Sports Store 10 Due	Oct 8-Live Class	Class Demos, Sports Store 11, My Collection 3
Oct 12 - 18	Oct 12 - Virtual Office 3PM-5PM Class Demos 6&more Due	Oct 13-Live Class	Oct 14 - Virtual Office Noon-3PM Sports Store 11 Due	Oct 15-Live Class PROJECT KICKOFF	Class Demos, My Collection 3

Last Seven Weeks (Team Project)

Week	Monday	Tuesday	Wednesday	Thursday	Fri – Sun Homework
Oct 19 – Oct 25	Oct 19- Virtual Office 3PM-5PM PROJECT Q&A	Oct 20 - Live Class PROJECT Q&A	Oct 21 - Virtual Office Noon-3PM My Collection 3 Due	Oct 22 - Live Class PROJECT Q&A	Sprint 1
Oct 26 – Nov 1	Oct 26- Virtual Office 3PM-5PM PROJECT HELP	Oct 27 - Live Class PROJECT HELP	Oct 28- Virtual Office Noon-3PM PROJECT HELP	Oct 29 - SPRINT1 PRESENTATIONS TEAMS 1-3	Sprint 1
Nov 2 - 8	Nov 2- Virtual Office Noon-3PM PROJECT HELP	Nov 3 - SPRINT1 PRESENTATIONS TEAMS 4-6	Nov 4- Virtual Office Noon-3PM PROJECT HELP	Nov 5 - Live Class PROJECT HELP	Sprint 2
Nov 9 - 15	Nov 9- Virtual Office Noon-3PM PROJECT HELP	Nov 10 - Live Class PROJECT HELP	Nov 11- Virtual Office Noon-3PM PROJECT HELP	Nov 12 - SPRINT 2 PRESENTATIONS TEAMS 1-3	Sprint 2
Nov 16 - 22	Nov 16- Virtual Office Noon-3PM PROJECT HELP	Nov 17 - SPRINT 2 PRESENTATIONS TEAMS 4-6	Nov 18- Virtual Office Noon-3PM PROJECT HELP	Nov 19 - NO CLASS – INSTRUCTOR NOT AVAILABLE	Sprint 3
Nov 23 - 29	THANKSGIVING WEEK - INSTRUCTOR NOT AVAILABLE				Sprint 3
Nov 30 – Dec 6	Nov 30- Virtual Office Noon-3PM PROJECT HELP	Dec 1 - Live Class PROJECT HELP	Dec 2- Virtual Office Noon-3PM PROJECT HELP	Dec 3 - SPRINT3 PRESENTATIONS TEAMS 1-3	Sprint 3
Dec 7-8 Final's Week	Dec 7- Virtual Office Noon-3PM PROJECT HELP	Dec 8 - SPRINT3 PRESENTATIONS TEAMS 4-6			

Plagiarism and Cheating Policy

Although cheating has many forms, I generally consider cheating to be any attempt to claim someone else's work as your own. In this class although I generally encourage the discussion of the course material, as well as providing general help to your classmates on the assignments, I draw a firm line regarding what sharing, and copying is permissible in this course. Specifically, you must adhere to the following rules:

- If you copy any content verbatim or pseudo-verbatim (e.g., by changing variable names) from existing materials (e.g., StackOverflow), you must cite your source. Failing to provide such citations or borrowed material will be regarded as plagiarism.
- Do not copy any content (solutions or parts thereof) from the author's solutions published on the internet or from other students in current or previous semesters, even if cited.
- When in doubt, do not hesitate to ask! In this case, it is NOT better to beg for forgiveness than to ask for permission.

Please keep in mind that I also use plagiarism-detection software to identify similarities among submission and between submissions and online materials (e.g., repositories of students from previous semesters). Because I have access to the same resources you have access to, our plagiarism detector will most likely identify these cases (as it has done in the past).

WARNING: The School of Computing's policy dictates that any verifiable evidence of student academic cheating, as defined and determined by the instructor above, will result in: 1) an automatic failing grade for the class and 2) a report to the Dean of Students that will include a detailed description of the student's dishonest conduct.

Syllabus Last Updated 8/18/2020