

<b>Course Number</b>	CS 296N	<b>Instructor</b>	Brian Bird
<b>CRN</b>	32672	<b>E-mail</b>	<a href="mailto:birdb@lanecc.edu">birdb@lanecc.edu</a>
<b>Classroom</b>	19/120	<b>Office</b>	Building 19, Room 152
<b>Credits</b>	4	<b>Office Phone</b>	541-463-3024
<b>Day &amp; Time</b>	T, Th, 10:00 – 11:50	<b>Office Hours</b>	M, W: 2:00 - 3:00 and Tu, Th: 12:00 - 1:00

### Course Description

This course continues coverage of server-side programming in C# using the ASP.NET framework. You will learn the concepts underlying the MVC (Model View Controller) design pattern and learn to use the Microsoft ASP.NET MVC framework with SQL Server. Programming assignments will consist of guided tutorial exercises as well as labs in which you will design and program a complete web site on your own. In the last part of the term we will start a large-scale team project that will be continued in the Capstone Project course next term.

### Learning Outcome

To be able to design and program a web site that uses the ASP.NET MVC framework for a moderately complex web site.

### Course Content

#### *Technologies*

ASP.NET	Visual Studio	ASP.NET MVC
C#	T-SQL	Razor
LINQ	Git	Entity Framework

#### *Themes and Issues*

Software engineering	Architectural Design Patterns	Test-driven development
Web standards	Extensibility	Object oriented programming
Separation of concerns	Avoiding dependencies	Data driven web applications

#### *Skills*

Use Visual Studio to develop and publish ASP.NET MVC web sites.
Effectively use software development tools like the MS unit test framework
Design, implement, test and debug a web application
Design and manage an SQL Server database that is used by an MVC web application

## Learning Resources

### *Textbook*

*Pro ASP.NET Core MVC*, 6th Edition, by Adam Freeman, Apress, 2016 ISBN-13: 978-1484203989 is the textbook for the course. The source code for the sample programs in the text is available for download on the publisher's web site: <http://www.apress.com/us/book/9781484203989>

### *Software*

The hardware and software required for the course are available to all students in the CIT Main Lab on campus. You paid a fee when you registered for this course that provides you with unlimited access to CIT lab facilities.

Visual Studio 2015 will be the development environment provided in class and in the CIT Main Lab. This software can be obtained free of charge through your LCC Microsoft Imagine account (formerly Microsoft Dream Spark, and before that called MSDNAA), <http://e5.onthehub.com/WebStore/Welcome.aspx?vsro=8&ws=EC37AD18-ED9B-E011-969D-0030487D8897>. You can download it or borrow the setup DVD from the CIT computer lab.

You may alternatively use Visual Studio 2015 Community edition which is a free download from Microsoft at [www.visualstudio.com/en-us/products/visual-studio-community-vs](http://www.visualstudio.com/en-us/products/visual-studio-community-vs).

### *Web Sites*

<https://classes.lanecc.edu> will give you access to the Moodle site for the course.

You will be deploying web apps that you create to the Microsoft Azure cloud. You are entitled to a free Azure account through LCC's Microsoft Imagine subscription as described here: <https://azure.microsoft.com/en-us/offers/ms-azr-0144p>

## Assessment and Grading

Specific grading criteria will be applied to each of the labs, quizzes, and exams you will be working on in this class. Part of the lab involves peer evaluation. You will be provided with lab evaluation worksheets for each lab. Attendance is not graded.

The table below summarizes the grade distribution for each of the assessment tasks:

<i>Assessment Activities</i>	<i>Points for each</i>	<i>Total Points</i>	<i>Total Percentage</i>
8 Labs	50	400	40%
8 Lab Reviews	10	80	8%
10 Tutorial exercises	10	100	10%
Midterm exam	150	150	15%
Term Project	100	100	10%
Final exam	170	170	17%

Letter grades for the course will be determined by the following percentages:

	-		+
<i>A</i>	90 – 91	92 – 97	98 – 100
<i>B</i>	80 – 81	82 – 87	88 – 89
<i>C</i>	70 – 71	72 – 77	78 – 79
<i>D</i>	60 – 61	62 – 67	68 – 69
<i>F</i>	Below 60		

### *Late Work*

- The grade for labs submitted after the due date will be reduced by 10%.  
Labs submitted after the in-class code review will be reduced by 25%
- Exams cannot be taken after the due date. Plan ahead!
- Exceptions will only be made for severe illness or emergency situations.

### *Academic Honesty*

While students are encouraged to discuss labs and to use each other as resources, each student is responsible for his/her own work. In other words, you can help each other, but you can't copy any part of someone else's work. The end product must be entirely your own individual work.

### *Attendance*

Class attendance is not graded but will be essential for successful completion of the class. Students who miss a class are responsible for obtaining the course content provided in class and mastering it.

## Tentative Course Schedule

Week	Topic / In-class exercises	On your own: reading, exercises, labs	Due date
1 1/10	<b>Intro to MVC</b> <a href="https://docs.microsoft.com/en-us/aspnet/core/tutorials/first-mvc-app/index">https://docs.microsoft.com/en-us/aspnet/core/tutorials/first-mvc-app/index</a>	Skim Freeman Ch. 1 – Core MVC in Context Exercise 1: Freeman Ch. 2– Your 1 <sup>st</sup> MVC Application Read Freeman Ch. 3– The MVC Pattern	
1/12			
2 1/17	<b>Controllers and Views</b> <ul style="list-style-type: none"> <li><a href="https://docs.microsoft.com/en-us/aspnet/core/tutorials/first-mvc-app/adding-controller">https://docs.microsoft.com/en-us/aspnet/core/tutorials/first-mvc-app/adding-controller</a></li> <li><a href="https://docs.microsoft.com/en-us/aspnet/core/tutorials/first-mvc-app/adding-controller">https://docs.microsoft.com/en-us/aspnet/core/tutorials/first-mvc-app/adding-controller</a></li> <li><a href="https://docs.microsoft.com/en-us/aspnet/core/tutorials/publish-to-azure-webapp-using-vs">https://docs.microsoft.com/en-us/aspnet/core/tutorials/publish-to-azure-webapp-using-vs</a></li> </ul>	Lab 1 beta: Propose a web app term project Lab 1 review of your lab partner's beta version Skim Freeman Ch. 4 – Essential Language Features Read Freeman Ch. 5 – Working with Razor Exercise 2: Do the Ch. 5 project Lab 1 production version.	Mon, 1/16 Tue, 1/17
1/19			Thu, 1/19
3 1/24	<b>Unit Testing, Dependency Injection</b> <ul style="list-style-type: none"> <li><a href="https://docs.microsoft.com/en-us/dotnet/articles/core/testing/using-mstest-on-windows">https://docs.microsoft.com/en-us/dotnet/articles/core/testing/using-mstest-on-windows</a></li> <li><a href="https://docs.microsoft.com/en-us/aspnet/core/mvc/controllers/dependency-injection">https://docs.microsoft.com/en-us/aspnet/core/mvc/controllers/dependency-injection</a></li> <li><a href="https://docs.microsoft.com/en-us/aspnet/core/mvc/controllers/testing">https://docs.microsoft.com/en-us/aspnet/core/mvc/controllers/testing</a></li> </ul>	Lab 2 beta: Skeletal version of your web app with Razor Lab 2 code review Skim: Freeman Ch. 6 – Working with Visual Studio (36 pages) Read Ch. 7 – Unit Testing MVC Applications (31 pages) Exercise 3: Do the Ch. 7 project Lab 2 production version and completed code review form.	Mon, 1/23 Tue, 1/24
1/26			Thu, 1/26
4 1/31	<b>Models, Entity Framework and Scaffolding</b> <ul style="list-style-type: none"> <li><a href="https://docs.microsoft.com/en-us/aspnet/core/tutorials/first-mvc-app/adding-model">https://docs.microsoft.com/en-us/aspnet/core/tutorials/first-mvc-app/adding-model</a></li> <li><a href="https://docs.microsoft.com/en-us/aspnet/core/tutorials/first-mvc-app/working-with-sql">https://docs.microsoft.com/en-us/aspnet/core/tutorials/first-mvc-app/working-with-sql</a></li> </ul>	Lab 3 beta: Add unit tests to your web site Lab 3 code review Read Freeman Ch. 8 – SportsStore (pgs. 191 – 216) Exercise 4: Do the Ch. 8 project, stop before “Pagination”. Lab 3 Release version and completed code review form.	Mon, 1/30 Tue, 1/31
2/2			Thu, 2/2
5 2/7	<b>Customizing Scaffolding</b> <a href="https://docs.microsoft.com/en-us/aspnet/core/tutorials/first-mvc-app/controller-methods-views">https://docs.microsoft.com/en-us/aspnet/core/tutorials/first-mvc-app/controller-methods-views</a>	Lab 4 beta: Add EF and a database and publish Lab 4 code review Read Freeman Ch. 8 (pgs. 216 – 234) Exercise 5: Finish the Ch. 8 SportsStore project Lab 4 Release version and completed code review form.	Mon, 2/6 Tue, 2/7
2/9			Thu, 2/9

<b>6</b> 2/14	<b>Midterm exam</b>	No lab assignment due this week	
2/16	<b>Navigation</b>	Read Freeman Ch. 9 – SportsStore: Navigation (34 pages) Exercise 6: Do the Ch. 9 project	
<b>7</b> 2/21	<b>Midterm discussion</b>	Lab 5 beta: Add navigation to your web app Lab 5 code review	Mon, 2/21 Tue, 2/22
2/23	<b>Forms and Tag Helpers</b>	Read Freeman Ch. 10 – SportsStore: Completing the Cart (22 pages) Exercise 7: Do the Ch. 10 project Lab 5 Release version and completed code review form.	Thu, 2/23
<b>8</b> 2/28	<b>Annotation and validation</b>	Lab 6 beta: TBD Lab 6 code review	Mon, 2/27 Tue, 2/28
3/2		Read Ch. 11 – SportsStore: Administration (28 pages) Exercise 8: Do the Ch. 10 and 11 projects. Lab 6 Release version and completed code review form.	Thu, 3/2
<b>9</b> 3/7	<b>Authorization and Authentication</b>	Lab 7 beta: Add an administrative page to your web app Lab 7 code review	Mon, 3/6 Tue, 3/7
3/9		Ch. 12 – Security and Finishing Touches Exercise 9: Do the Ch. 12 project Lab 7 Release version and completed code review form.	Thu, 3/9
<b>10</b> 3/14	<b>API Controllers</b>	Lab 8 Beta: TBD Lab 8 code review	Mon, 3/13 Tue, 3/14
3/16	<b>Final Review</b>	Read Freeman Ch. 20 – API Controllers Exercise 10: Do the Ch. 20 project Lab 8 Release version and completed code review form.	Thu, 3/16
<b>11</b> 3/21	Finals Week <b>Final Exam</b>	No reading, exercise or lab.	

### ***Weekly Schedule (after the first week)***

#### **Monday**

Post the beta (draft) version of last week's lab assignment

#### **Tuesday**

Complete a review of your lab partner's beta version

#### **Wednesday**

Finish this week's reading

Finish the exercise

#### **Thursday**

Submit the production (final) version of last week's lab work

### ***Academic Calendar for Winter Term 2017***

First day of class	1/9/17
Last day to receive refund	1/15/17, 11:59 pm
Martin Luther King Jr. holiday	1/16/17
President's Day holiday	2/20/17
Last day for schedule changes	3/3/17
Finals week	3/20/17 – 3/19/16
Term ends	3/25/17

### **Disability Services**

If you need support or assistance because of a disability, you may be eligible for academic accommodations through Disability Services. For more information, contact Disability Services at 463-5150 (voice) or 463-3079 (TTY), or stop by building 1, room 218.