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| **Course Number** | CS 296N | **Instructor** | Brian Bird |
| **CRN** | 32672 | **E-mail** | [birdb@lanecc.edu](mailto:birdb@lanecc.edu) |
| **Classroom** | 19/120 | **Office** | Building 19, Room 152 |
| **Credits** | 4 | **Office Phone** | 541-463-3024 |
| **Day & Time** | T, Th, 10:00 – 11:50 | **Office Hours** | M – Th, 2:30 – 3:30 |

**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>

***Web Sites***

<https://classes.lanecc.edu> will give you access to the Moodle site for the course.  The site is designed as a supplement to the in-class section of the course.

***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 the Visual Studio 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).

**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:

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| --- | --- | --- | --- |
| ***Assessment Activities*** | ***Points for each*** | ***Total Points*** | ***Total Percentage*** |
| 8 Labs | 50 | 400 | 40% |
| 8 Lab Reviews | 10 | 80 | 8% |
| 8 Tutorial exercises | 10 | 80 | 8% |
| Midterm exam | 150 | 150 | 15% |
| Term Project | 100 | 100 | 10% |
| Final exam | 150 | 150 | 15% |

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

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

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| --- | --- | --- | --- |
| ***Week*** | ***In Class Learning Activities*** | ***Homework (outside of class)*** | ***Due*** |
| **1**  *1/10* | Lecture: Intro to MVC | Read Freeman Ch. 1 – Core MVC in Context  Exercise 1: Freeman Ch. 2– Your 1st MVC Application  Lab 1: Propose a web site term project | Tue  Wed  Sun |
| 1/12 | Practice: Tip of the Day MVC site |
| **2**  *1/17* | Lab 1 code review  Lecture: controllers and views | Read Freeman Ch. 3 – The MVC Pattern  Exercise 2: TBD (To Be Determined)  Lab 1 Release version and completed code review form.  Lab 2: Start your new web site project | Mon  Wed  Thu  Sun |
| 1/19 | Practice: Tip of the Day web site |
| **3**  *1/24* | Lab 2 code review  Lecture: Models | Read Freeman Ch. 4 – Essential Language Features  Exercise 3: [MSDN, Getting Started with LINQ in C#](http://msdn.microsoft.com/en-us/library/bb397933(v=vs.110).aspx)  Lab 2 Release version and completed code review form.  Lab 3 Beta: TBD | Mon  Wed  Thu  Sun |
| 1/26 | Practice: Tip of the Day web site |
| **4**  *1/31* | Lab 3 code review  Forms and HTML helpers | Read Freeman Ch. 5 – Working with Razor  Exercise 4: [MSDN, EF Dev Workflows](http://msdn.microsoft.com/en-us/data/jj590134), [Database First](http://msdn.microsoft.com/en-us/data/jj206878).  Lab 3 Release version and completed code review form.  Lab 4 Beta: Add Razor to your web site, add a database | Mon  Wed  Thu  Sun |
| 2/2 | Practice: Tip of the Day web site |
| **5**  *2/7* | Lab 4 code review  Lecture: Annotation and validation | Read: Freeman Ch. 6 – Working with Visual Studio, and Ch. 7 – Unit Testing MVC Applications  Exercise 5: TBD  Lab 4 Release version and completed code review form.  Lab 5 Beta: Add unit tests to your web site | Mon  Wed  Thu  Sun |
| 2/9 | Practice: Tip of the Day web site |

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| --- | --- | --- | --- |
| **6**  *2/14* | Lab 5 code review  Midterm review  Practice: To-do list | No new reading, exercise or Lab this week |  |
|  |  |
| 2/16 | Midterm exam | Lab 5 Release version and completed code review form. | Thu |
|  |  |
| **7**  *2/21* | Midterm discussion  Lecture: Database, Deploying to Azure | Read Freeman Ch. 8 – SportsStore -- A Real Application  Exercise 6: Ch. 8 SportsStore, [MSDN, Getting Started with Windows Azure SQL Database](http://www.windowsazure.com/en-us/manage/services/sql-databases/getting-started-w-sql-databases/), [MSDN, Migrating Databases to Azure](http://msdn.microsoft.com/en-us/library/windowsazure/ee730904.aspx)  Lab 5 Release version and completed code review form.  Lab 6 Beta: Add a database to your web site, deploy to Azure SQL | Mon  Wed  Sun |
| 2/23 | Practice: Tip of the Day web site |
| **8**  *2/28* | Lab 6 code review | Read Freeman Ch. 9 – SportsStore: Navigation  Exercise 7: TBD  Lab 6 Release version and completed code review form.  Lab 7: TBD | Mon  Wed  Thu  Sun |
| *3/2* | Lecture: navigation  Practice: Tip of the Day web site |
| **9**  *3/7* | Lab 7 code review  Lecture: TBD | Read Freeman Ch. 10 – SportsStore: Completing the Cart  Exercise 8: TBD  Lab 7 Release version and completed code review form.  Lab 8 Beta: TBD | Mon  Wed  Thu  Sun |
| *3/9* | Practice: Tip of the Day web site |
| **10**  *3/14* | Lab 8 code review  Lecture: TBD | Read Ch. 11 – SportsStore: Administration, and Ch. 12 – Security and Finishing Touches  Exercise 10: TBD  Lab 8 Release version and completed code review form. | Mon  Wed  Thu |
| *3/16* | Practice: Tip of the Day web site |
| **11** | Finals Week |  |  |
| *3/21* | **Final Exam** |  |  |

***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.