

## Gateway Technical College

10-152-178 Developing ASP.NET Web Apps

# Course Design

### Course Information

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| --- | --- | --- |
|  | Description | In this course students will learn to use .NET Framework tools and technologies to develop advanced ASP.NET MVC applications. The focus will be on coding activities that improve performance and scalability of Web site applications. ASP.NET MVC will be introduced and compared with Web Forms so that students know when each should/could be used. This course will help prepare students for exam 70-486. |
|  | Career Cluster | Information Technology |
|  | Instructional Level | Associate Degree |
|  | Total Credits | 3.00 |
|  | Total Hours | 72.00 |

Types of Instruction

|  |  |
| --- | --- |
| Instruction Type | Credits/Hours |
| Lecture/Presentation/Discussion | 2.0/36.0 |
| In-Class Lab | 1.0/36.0 |

Pre/Corequisites

|  |  |
| --- | --- |
| Prerequisite | 10-152-126 (Minimum Grade C) |

### Course Textbook(s)

Freeman, Adam. Pro ASP.net MVC 4 (2012). APress (Publisher):4th Edition. ISBN: 978-1-4302-4236-9

Paz, José Rolando Guay . Beginning ASP.net MVC 4 (2013). APress (Publisher), 4th Edition. ISBN: 978-1-4302-5752-3

### Course Competencies

|  |  |
| --- | --- |
| 1. | Develop programs utilizing programming constructs. |
|  | Assessment Strategies |
|  | 1.1. | .net programming constructs lab. |
|  | Criteria |
|  | 1.1. | learner explains programming constructs. |
|  | 1.2. | learner solves the assigned business problems per instructor specifications using .net programming constructs. |
|  | 1.3. | learner debugs the assigned business problems per instructor specifications using .net programming constructs. |
|  | Learning Objectives |
|  | 1.a. | Develop interactive programs utilizing sequential coding technique. |
|  | 1.b. | Develop interactive programs using variables. |
|  | 1.c. | Develop interactive programs using arithmetic operators. |
|  | 1.d. | Develop interactive programs using primitive data types. |
|  | 1.e. | Develop interactive programs using class types. |
|  | 1.f. | Develop interactive programs using an if condition. |
|  | 1.g. | Develop interactive programs using switch-case condition. |
|  | 1.h. | Create interactive programs using count-controlled loops. |
|  | 1.i. | Create interactive programs using event-controlled loops. |
|  | 1.j. | Create interactive programs using nested loops. |
|  | 1.k. | Create interactive programs using one-dimensional arrays. |
|  | 1.l. | Create interactive programs using multi-dimensional arrays. |
| 2. | Develop ASP.net applications using Controller and View architecture. |
|  | Assessment Strategies |
|  | 2.1. | ASP.net Controller and View lab. |
|  | 2.2. | Unit test Controller and View programming solution. |
|  | Criteria |
|  | 2.1. | learner solves the assigned business problems per instructor specifications using Controller and View architecture. |
|  | 2.2. | learner designs a user interface for ASP.net application using code. |
|  | 2.3. | learner performs unit testing on controller and view application per instructor specifications using controller and view architecture. |
|  | Learning Objectives |
|  | 2.a. | Develop controller classes. |
|  | 2.b. | Develop action methods. |
|  | 2.c. | Develop views for action methods. |
| 3. | Develop ASP.net applications using Model, Controller and View architecture. |
|  | Assessment Strategies |
|  | 3.1. | ASP.net Model, View and Controller lab. |
|  | 3.2. | Unit test Model, View and Controller programming solution. |
|  | Criteria |
|  | 3.1. | learner solves the assigned business problems per instructor specifications using Model, View and Controller architecture. |
|  | 3.2. | learner designs a user interface for ASP.net application using code. |
|  | 3.3. | learner performs unit testing on model, view and controller application per instructor specifications using MVC architecture. |
|  | Learning Objectives |
|  | 3.a. | Develop ASP.net applications using Controller and View architecture. |
|  | 3.b. | Develop controller classes. |
|  | 3.c. | Develop action methods. |
|  | 3.d. | Develop views for action methods. |
|  | 3.e. | Develop model classes. |
| 4. | Develop interactive programs utilizing data validation techniques. |
|  | Assessment Strategies |
|  | 4.1. | ASP.net data validation lab. |
|  | 4.2. | Develop test cases for data validation. |
|  | Criteria |
|  | Learner will be successful when: |
|  | 4.1. | learner solves the assigned business problems per instructor specifications using data validation techniques. |
|  | 4.2. | learner develops test cases per instructor specifications using data validation techniques. |
|  | Learning Objectives |
|  | 4.a. | Code programs using manual validation. |
|  | 4.b. | Code programs using data annotation validation. |
|  | 4.c. | Code custom data annotations. |
| 5. | Apply the user interface design for a web application. |
|  | Assessment Strategies |
|  | 5.1. | User interface design lab. |
|  | 5.2. | Test user interface application. |
|  | Criteria |
|  | 5.1. | learner designs a user interface for ASP.net application using client-side technologies. |
|  | 5.2. | learner designs a user interface for ASP.net application using server-side technologies. |
|  | 5.3. | learner test user interface application per instructor specifications using web interface design techniques. |
|  | Learning Objectives |
|  | 5.a. | Apply styling techniques using CSS - Cascading Style Sheet. |
|  | 5.b. | Apply user interface techniques by using HTML. |
|  | 5.c. | Apply dynamic page content based on a design. |
| 6. | Plan for search engine optimization and accessibility. |
|  | Assessment Strategies |
|  | 6.1. | Search engine optimization lab. |
|  | Criteria |
|  | 6.1. | learner uses analytical tools to parse HTML. |
|  | 6.2. | learner evaluates page structure by using browser plugins. |
|  | 6.3. | learner codes semantic markup for accessibility. |
|  | Learning Objectives |
|  | 6.a. | Plan analytical tools to parse HTML. |
|  | 6.b. | Plan using plugs-in for browsers. |
|  | 6.c. | Plan for accessibility. |
| 7. | Test web applications. |
|  | Assessment Strategies |
|  | 7.1. | Unit test web application lab. |
|  | 7.2. | Debug web application lab. |
|  | Criteria |
|  | 7.1. | learner creates unit tests. |
|  | 7.2. | learner runs unit tests. |
|  | 7.3. | learner debugs web application in multiple web browsers. |
|  | Learning Objectives |
|  | 7.a. | Test web application using unit testing. |
|  | 7.b. | Test web application using web tests. |
|  | 7.c. | Test web application in multiple browsers and mobile emulators. |
| 8. | Develop ASP.net cloud based solution. |
|  | Assessment Strategies |
|  | 8.1. | ASP.net cloud based solutions lab. |
|  | Criteria |
|  | 8.1. | learner successfully logins to cloud based environment. |
|  | 8.2. | learner develops application on the cloud. |
|  | Learning Objectives |
|  | 8.a. | Develop application to establish connection with the cloud. |
|  | 8.b. | Develop application to utilize cloud based services. |
| 9. | Develop applications utilizing authentication and authorization techniques. |
|  | Assessment Strategies |
|  | 9.1. | Authentication lab. |
|  | 9.2. | Authorization lab. |
|  | Criteria |
|  | 9.1. | learner authenticates users using FBA - Form based authentication. |
|  | 9.2. | learner authenticates users using external authentication. |
|  | 9.3. | learner authorizes roles programmatically. |
|  | Learning Objectives |
|  | 9.a. | Develop application to authenticate users. |
|  | 9.b. | Develop application to authorize users. |
| 10. | Develop applications utilizing globalization and localization techniques. |
|  | Assessment Strategies |
|  | 10.1. | Globalization lab. |
|  | 10.2. | Localization lab. |
|  | Criteria |
|  | 10.1. | learner develops application applying resources to UI - User Interface. |
|  | 10.2. | learner develops application setting cultures. |
|  | Learning Objectives |
|  | 10.a. | Develop application using localization strategy. |
|  | 10.b. | Develop application using globalization strategy. |
|  | 10.c. | Develop application using resources to UI. |
| 11. | Develop ASP.net database applications. |
|  | Assessment Strategies |
|  | 11.1. | ASP.net database connectivity lab. |
|  | Criteria |
|  | 11.1. | learner solves the assigned business problems per instructor specifications using database connectivity. |
|  | 11.2. | learner models the assigned business problems per instructor specifications using ER-Modeling techniques. |
|  | Learning Objectives |
|  | 11.a. | Code application to establish connection with the database using appropriate database drivers. |
|  | 11.b. | Code application to read data from the database. |
|  | 11.c. | Code application to write data to the database. |
|  | 11.d. | Code application to update data in the database. |
|  | 11.e. | Code application to delete data from the database. |

### Grading Information

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| --- |
|  |
| Assignments and Labs                 85%Final Exam                                   15%     Total                                       100% |

A = 95-100%
A- = 90-94%
B+ = 87-89%
B = 83-86%
B- = 80-82%
C+ = 77-79%
C = 70-76%
F = 0-69%

Incomplete grade is given only in extenuating circumstances.
1. No incomplete grade will be given without 80% of official coursework completed.
2. The faculty member and student will come up with a plan and timetable when unfinished work will be due. Maximum period of time within 2 weeks of end of class
3. Incomplete will be done electronically through WebAdvisor along with the date of expected completion.
4. The incomplete grade can hold up a student’s financial aid for the next semester –resulting in financial aid probation until the course is complete and a final grade is given.
The following policies will be followed in this class.

|  |
| --- |
| Attendance |
| This course meets 3 days per week for 6 hours per day.  We will start on time.  Since you are being trained for employment and because of the hands-on nature of this course, excessive absences and/or tardiness will not be tolerated. There is a strong correlation between attendance/participation and success in the classroom. |
| Professional Conduct |
| Professional conduct is how you treat your instructor, your classmates, and yourself. You should come to class on-time, prepared and actively participate in class discussion and activities. Note: Internet surfing, game playing, emailing, texting, etc is not acceptable conduct during class activities. In consideration of others, students are asked to turn off cell phones. If an emergency call is expected set your phone to vibrate. |
| Mutual Respect |
| The Core Programming SharePoint Solutions class is designed for collaboration rather than competition. That means that each member of the class supports the others in their efforts to succeed.  Be sure to come to each class prepared to:1. Listen with respect.2. Speak with respect.3. Contribute actively to the work of your team. |
| Participation  |
| Your participation is important! You are a vital resource with unique experience and perspective. Thoughtful "discussion" cannot occur without your participation. Since interaction is intended to provide information, stimulation and inspiration, it is a component of your semester grade. Participation will be monitored by your involvement in class or discussion boards each week. |
| Internet |
| All material will be distributed on Blackboard.  Class notes, instructional material and student assignments will be posted on a class website at: http://gtc.blackboard.com  (UserName=Student ID; Password=Last 3 digits of ID).Distance Learning Student Support is available at: <http://cws.gtc.edu/departments/distancelearning/studentsupport/> |
| Metadata |
| SharePoint Server Core 2013, SharePoint Content Types,SharePoint Social, User Authentication and Authorization, Collaborative Application Makrup Language (CAML), SharePoint Lists, SharePoint Object Life Cycle, Sandboxed Solutions, no-code Solutions, SharePoint branding, SharePoint navigation, SharePoint Designer Workflows, Office 365 Apps, SharePoint Search, SharePoint apps. |

### Course Learning Plans and Performance Assessment Tasks

|  |  |
| --- | --- |
| Type | Title |
| LP | Learning Plan - Develop programs utilizing programming constructs. |
| PAT | Programming constructs lab.  |
| LP | Learning Plan - Develop Controller and View applications.  |
| PAT | Controller-View lab. |
| LP | Learning Plan - Develop Model, View and Controller applications. |
| PAT | Model-View-Controller lab.  |
| LP | Learning Plan - Apply data validation. |
| PAT | Data Validation lab. |
| LP | Learning Plan - Apply user interface design. |
| PAT | User interface design lab. |
| LP | Learning Plan - Plan search engine optimization and accessibility. |
| PAT | Search engine optimization lab. |
| LP | Learning Plan - Test web applications. |
| PAT | Test web applications lab.  |
| LP | Learning Plan - Apply cloud based solutions. |
| PAT | Cloud based solutions lab.  |
| LP | Learning Plan - Apply authentication and authorization techniques. |
| PAT | Authentication and authorization lab. |
| LP | Learning Plan - Apply localization and globalization techniques. |
| PAT | Localization and globalization lab.  |
| LP | Learning Plan - Apply database applications. |
| PAT | Database connectivity lab. |

Learning Plan - Develop programs utilizing programming constructs.

Overview/Purpose

In this learning plan students will learn:

to apply working with arrays

to apply working with sequential coding techniques

to apply working with conditional coding techniques

to apply working with iterative coding techniques

to apply working with operators

Target Competencies

|  |  |
| --- | --- |
| 1. | Develop programs utilizing programming constructs. |
|  | Assessment Strategies |
|  | 1.1. | .net programming constructs lab. |
|  |  |  |
|  | Criteria |
|  | 1.1. | learner explains programming constructs. |
|  | 1.2. | learner solves the assigned business problems per instructor specifications using .net programming constructs. |
|  | 1.3. | learner debugs the assigned business problems per instructor specifications using .net programming constructs. |
|  | Learning Objectives |
|  | 1.a. | Develop interactive programs utilizing sequential coding technique. |
|  | 1.b. | Develop interactive programs using variables. |
|  | 1.c. | Develop interactive programs using arithmetic operators. |
|  | 1.d. | Develop interactive programs using primitive data types. |
|  | 1.e. | Develop interactive programs using class types. |
|  | 1.f. | Develop interactive programs using an if condition. |
|  | 1.g. | Develop interactive programs using switch-case condition. |
|  | 1.h. | Create interactive programs using count-controlled loops. |
|  | 1.i. | Create interactive programs using event-controlled loops. |
|  | 1.j. | Create interactive programs using nested loops. |
|  | 1.k. | Create interactive programs using one-dimensional arrays. |
|  | 1.l. | Create interactive programs using multi-dimensional arrays. |

### Learning Activities

|  |  |
| --- | --- |
| 1. | Examine a website form to identify controls, events, data types, and server-side processing code. Identify three or more GUI components used in a form/document identified by your instructor. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
| 2. | Read the associated text and provided responses to related chapter questions. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |
| 3. | Listen to instructor lecture on interactive programming constructs. |
| 4. | Solve sample problems from the associated text and share the results with the instructor. |
| 5. | Develop instructor assigned business problems applying programming constructs coding techniques. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |

Assessment Activities

|  |  |
| --- | --- |
| 1.2.3.  | Submit programming constructs lab.Submit assigned questions and coded chapter problems Solve then submit assigned business problems  |

Programming constructs lab.

Directions

Purpose: To learn about programming constructs techniques.

Develop applications on specifications provided by instructor.

The application solves business problems using sequential programming techniques.

Target Course Competencies

|  |  |
| --- | --- |
| 1. | Develop programs utilizing programming constructs. |

### Scoring

Rating Scale

|  |  |
| --- | --- |
| Value | Description |
| Complete | The student has created a working solution based on the provided specifications. |
| Not Complete | One or more of the assigned tasks were missing, incomplete or had error(s). |

Scoring Standard

You must earn a "complete" on all criteria to pass the assessment.

### Scoring Guide

|  |  |  |
| --- | --- | --- |
|  | Criteria | Ratings |
| 1. | learner solves the assigned business problems per instructor specifications using sequential coding techniques. | Complete Not Complete |
| 2. | learner solves the assigned business problems per instructor specifications using conditional programming techniques. | Complete Not Complete |
| 3. | learner solves the assigned business problems per instructor specifications using iterative programming techniques.. | Complete Not Complete |
| 4. | learner solves the assigned business problems per instructor specifications using arrays. | Complete Not Complete |
| 5. | learner debugs the assigned business problems per instructor specifications using .net programming constructs. | Complete Not Complete |

Learning Plan - Develop Controller and View applications.

Overview/Purpose

In this learning plan students will learn:

to apply working with controller classes

to apply working with action methods

to apply working with views

Target Competencies

|  |  |
| --- | --- |
| 1. | Develop ASP.net applications using Controller and View architecture. |
|  | Assessment Strategies |
|  | 1.1. | ASP.net Controller and View lab. |
|  | 1.2. | Unit test Controller and View programming solution. |
|  | Criteria |
|  | 1.1. | learner solves the assigned business problems per instructor specifications using Controller and View architecture. |
|  | 1.2. | learner designs a user interface for ASP.net application using code. |
|  | 1.3. | learner performs unit testing on controller and view application per instructor specifications using controller and view architecture. |
|  | Learning Objectives |
|  | 1.a. | Develop controller classes. |
|  | 1.b. | Develop action methods. |
|  | 1.c. | Develop views for action methods. |

### Learning Activities

|  |  |
| --- | --- |
| 1. | Examine a website form to identify control, and view. Identify mixed-layouts used in a form/document. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |
| 2. | Read the associated text and provided responses to related questions. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |
|  | Delegates | <http://www.tutorialspoint.com/csharp/csharp_delegates.htm> |
|  | Helper Methods | <http://www.codeproject.com/Articles/787320/An-Absolute-Beginners-Tutorial-on-HTML-Helpers-and> |
|  | ViewBag-ViewData | <http://rachelappel.com/when-to-use-viewbag-viewdata-or-tempdata-in-asp.net-mvc-3-applications/> |
| 3. | Listen to instructor lecture on how to develop controller classes, action methods and views. |
| 4. | Solve sample problems from the associated text and share the results with the instructor. |
| 5. | Develop instructor assigned business problems applying controller-view techniques. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |

### Assessment Activities

|  |  |
| --- | --- |
| 1. | Submit controller and view lab. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |
|  | ViewBag-ViewData | <http://rachelappel.com/when-to-use-viewbag-viewdata-or-tempdata-in-asp.net-mvc-3-applications/> |

2. Submit assigned questions and coded chapter problems

3. Solve then submit assigned business problems

Controller-View lab.

Directions

Purpose: To learn about controller-view coding techniques.

Develop applications on specifications provided by instructor.

The application solves business problems using controller-view techniques.

Target Course Competencies

|  |  |
| --- | --- |
| 1. | Develop ASP.net applications using Controller and View architecture. |

### Scoring

Rating Scale

|  |  |
| --- | --- |
| Value | Description |
| Complete | The student has created a working solution based on the provided specifications. |
| Not Complete | One or more of the assigned tasks were missing, incomplete or had error(s). |

Scoring Standard

You must earn a "complete" on all criteria to pass the assessment.

### Scoring Guide

|  |  |  |
| --- | --- | --- |
|  | Criteria | Ratings |
| 1. | learner solves the assigned business problems per instructor specifications using controller classes. | Complete Not Complete |
| 2. | learner solves the assigned business problems per instructor specifications using views for action methods. | Complete Not Complete |

Learning Plan - Develop Model, View and Controller applications.

Overview/Purpose

In this learning plan students will learn:

to apply working with controller classes

to apply working with action methods

to apply working with views

to apply working with models

Target Competencies

|  |  |
| --- | --- |
| 1. | Develop ASP.net applications using Model, Controller and View architecture. |
|  | Assessment Strategies |
|  | 1.1. | ASP.net Model, View and Controller lab. |
|  | 1.2. | Unit test Model, View and Controller programming solution. |
|  | Criteria |
|  | 1.1. | learner solves the assigned business problems per instructor specifications using Model, View and Controller architecture. |
|  | 1.2. | learner designs a user interface for ASP.net application using code. |
|  | 1.3. | learner performs unit testing on model, view and controller application per instructor specifications using MVC architecture. |
|  | Learning Objectives |
|  | 1.a. | Develop ASP.net applications using Controller and View architecture. |
|  | 1.b. | Develop controller classes. |
|  | 1.c. | Develop action methods. |
|  | 1.d. | Develop views for action methods. |
|  | 1.e. | Develop model classes. |

### Learning Activities

|  |  |
| --- | --- |
| 1. | Examine a website form to identify control, and view. Examine a standard form/document to identify how data in the file will be processed, analyzed, stored and retrieved |
| 2. | Examine a database model and unified model for object oriented programming to understand model complexity. (Use textbook or instructor selected examples.)  |
|  | *Learning Materials* |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
| 3. | Read the associated text and provide responses to related questions. |
|  | *Learning Materials* |
|  | Delegates | <http://www.tutorialspoint.com/csharp/csharp_delegates.htm> |
|  | Helper Methods | <http://www.codeproject.com/Articles/787320/An-Absolute-Beginners-Tutorial-on-HTML-Helpers-and> |
|  | ViewBag-ViewData | <http://rachelappel.com/when-to-use-viewbag-viewdata-or-tempdata-in-asp.net-mvc-3-applications/> |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
| 4. | Listen to instructor lecture on topics including developing ASP.net applications using controller and view architecture, developing controller and model classes and developing action methods and views. |
| 5. | Solve sample problems from the associated text and share the results with the instructor. |
|  | *Learning Materials* |
|  | MVC 5 | <https://www.lynda.com/ASP-NET-tutorials/ASP-NET-MVC-5-Essential-Training/170334-2.html> |
|  | MVC Tutorial | <https://www.lynda.com/Visual-Studio-tutorials/Exploring-ASP-NET-MVC/157134/166061-4.html> |
| 6. | Develop instructor assigned business problems applying model-controller-view techniques. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |

### Assessment Activities

|  |  |
| --- | --- |
| 1. | Submit model, view, controller lab. |
|  | *Learning Materials* |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | MVC Tutorial | <https://www.lynda.com/Visual-Studio-tutorials/Exploring-ASP-NET-MVC/157134/166061-4.html> |

2. Submit assigned questions and coded chapter problems

3. Solve then submit assigned business problems

Model-View-Controller lab.

Directions

Purpose: To learn about model-view-controller coding techniques.

Develop applications on specifications provided by instructor.

The application solves business problems using model-view-controller techniques.

Target Course Competencies

|  |  |
| --- | --- |
| 1. | Develop ASP.net applications using Model, Controller and View architecture. |

### Scoring

Rating Scale

|  |  |
| --- | --- |
| Value | Description |
| Complete | The student has created a working solution based on the provided specifications |
| Not complete | One or more of the assigned tasks were missing, incomplete or had error(s). |

Scoring Standard

You must earn a "complete" on all criteria to pass the assessment.

### Scoring Guide

|  |  |  |
| --- | --- | --- |
|  | Criteria | Ratings |
| 1. | learner solves the assigned business problems per instructor specifications using controller classes. | Complete Not Complete |
| 2. | learner solves the assigned business problems per instructor specifications using model classes. | Complete Not Complete |
| 3. | learner solves the assigned business problems per instructor specifications using views. | Complete Not Complete |
| 4. | learner performs unit testing on model, view and controller application per instructor specifications using MVC architecture. | Complete Not Complete |

Learning Plan - Apply data validation.

Overview/Purpose

In this learning plan students will learn:

to apply working with manual data validation

to apply working with data validation annotations

to apply working with custom data annotations

Target Competencies

|  |  |
| --- | --- |
| 1. | Develop interactive programs utilizing data validation techniques. |
|  | Assessment Strategies |
|  | 1.1. | ASP.net data validation lab. |
|  | 1.2. | Develop test cases for data validation. |
|  | Criteria |
|  | Learner will be successful when: |
|  | 1.1. | learner solves the assigned business problems per instructor specifications using data validation techniques. |
|  | 1.2. | learner develops test cases per instructor specifications using data validation techniques. |
|  | Learning Objectives |
|  | 1.a. | Code programs using manual validation. |
|  | 1.b. | Code programs using data annotation validation. |
|  | 1.c. | Code custom data annotations. |

### Learning Activities

|  |  |
| --- | --- |
| 1. | Examine a website form to identify data validation controls. You will then examine a physical database model to identify numerous reports that can be generated against the database using java. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |
| 2. | Read the associated text and provided responses to related questions. |
|  | *Learning Materials* |
|  | Delegates | <http://www.tutorialspoint.com/csharp/csharp_delegates.htm> |
|  | Helper Methods | <http://www.codeproject.com/Articles/787320/An-Absolute-Beginners-Tutorial-on-HTML-Helpers-and> |
|  | ViewBag-ViewData | <http://rachelappel.com/when-to-use-viewbag-viewdata-or-tempdata-in-asp.net-mvc-3-applications/> |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |
| 3. | Listen to instructor lecture on validation and annotation coding topics. |
| 4. | Solve sample problems from the associated text and share the results with the instructor. |
|  | *Learning Materials* |
|  | MVC 5 | <https://www.lynda.com/ASP-NET-tutorials/ASP-NET-MVC-5-Essential-Training/170334-2.html> |
|  | MVC Tutorial | <https://www.lynda.com/Visual-Studio-tutorials/Exploring-ASP-NET-MVC/157134/166061-4.html> |
| 5. | Develop instructor assigned business problems applying data validation techniques. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |

### Assessment Activities

|  |  |
| --- | --- |
| 1. | Submit ASP.net Data Validation lab. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |

2. Submit assigned questions and coded chapter problems

3. Develop then submit assigned business problems

Data Validation lab.

Directions

Purpose: To learn about data validation techniques.

Develop applications on specifications provided by instructor.

The application solves business problems using data validation techniques.

Target Course Competencies

|  |  |
| --- | --- |
| 1. | Develop interactive programs utilizing data validation techniques. |

### Scoring

Rating Scale

|  |  |
| --- | --- |
| Value | Description |
| Complete | The student has created a working solution based on the provided specifications. |
| Not Complete | One or more of the assigned tasks were missing, incomplete or had error(s). |

Scoring Standard

You must earn a "complete" on all criteria to pass the assessment.

### Scoring Guide

|  |  |  |
| --- | --- | --- |
|  | Criteria | Ratings |
| 1. | learner solves the assigned business problems per instructor specifications using manual data validation. | Complete Not Complete |
| 2. | learner solves the assigned business problems per instructor specifications using data annotations. | Complete Not Complete |
| 3. | learner solves the assigned business problems per instructor specifications using custom data annotations. | Complete Not Complete |

Learning Plan - Apply user interface design.

Overview/Purpose

In this learning plan students will learn:

to apply working with styling

to apply working user interface techniques

to apply working dynamic page content design

Target Competencies

|  |  |
| --- | --- |
| 1. | Apply the user interface design for a web application. |
|  | Assessment Strategies |
|  | 1.1. | User interface design lab. |
|  | 1.2. | Test user interface application. |
|  | Criteria |
|  | 1.1. | learner designs a user interface for ASP.net application using client-side technologies. |
|  | 1.2. | learner designs a user interface for ASP.net application using server-side technologies. |
|  | 1.3. | learner test user interface application per instructor specifications using web interface design techniques. |
|  | Learning Objectives |
|  | 1.a. | Apply styling techniques using CSS - Cascading Style Sheet. |
|  | 1.b. | Apply user interface techniques by using HTML. |
|  | 1.c. | Apply dynamic page content based on a design. |

### Learning Activities

|  |  |
| --- | --- |
| 1. | Examine a website form to study user interface design. Then examine a business form/document to convert to electronic form using web client-side development technologies |
| 2. | Read the associated text and provided responses to related questions. |
|  | *Learning Materials* |
|  | Delegates | <http://www.tutorialspoint.com/csharp/csharp_delegates.htm> |
|  | Helper Methods | <http://www.codeproject.com/Articles/787320/An-Absolute-Beginners-Tutorial-on-HTML-Helpers-and> |
|  | ViewBag-ViewData | <http://rachelappel.com/when-to-use-viewbag-viewdata-or-tempdata-in-asp.net-mvc-3-applications/> |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |
| 3. | Listen to instructor lecture on designing user interfaces for ASP.net applications on client/server side technologies.  |
| 4. | Solve sample problems from the associated text and share the results with the instructor. |
|  | *Learning Materials* |
|  | MVC 5 | <https://www.lynda.com/ASP-NET-tutorials/ASP-NET-MVC-5-Essential-Training/170334-2.html> |
|  | MVC Tutorial | <https://www.lynda.com/Visual-Studio-tutorials/Exploring-ASP-NET-MVC/157134/166061-4.html> |
| 5. | Develop instructor assigned business problems applying user interface design techniques. |

### Assessment Activities

|  |  |
| --- | --- |
| 1. | Submit user interface design lab. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |

2. Submit assigned questions and chapter problems

3. Develop then submit assigned business problems

User interface design lab.

Directions

Purpose: To learn about user interface design techniques using styles and HTML.

Develop applications on specifications provided by instructor.

The application solves business problems using user interface design techniques.

Target Course Competencies

|  |  |
| --- | --- |
| 1. | Apply the user interface design for a web application. |

### Scoring

Rating Scale

|  |  |
| --- | --- |
| Value | Description |
| Complete | The student has created a working solution based on the provided specifications. |
| Not Complete | One or more of the assigned tasks were missing, incomplete or had error(s). |

Scoring Standard

You must earn a "complete" on all criteria to pass the assessment.

### Scoring Guide

|  |  |  |
| --- | --- | --- |
|  | Criteria | Ratings |
| 1. | learner solves the assigned business problems per instructor specifications using user interface design techniques. | Complete Not Complete |
| 2. | learner solves the assigned business problems per instructor specifications using CSS. | Complete Not Complete |
| 3. | learner solves the assigned business problems per instructor specifications using HTML. | Complete Not Complete |

Learning Plan - Plan search engine optimization and accessibility.

Overview/Purpose

In this learning plan students will learn:

to apply working with analytical tools

to apply working with browser plug-ins

to apply working with user accessibility

Target Competencies

|  |  |
| --- | --- |
| 1. | Plan for search engine optimization and accessibility. |
|  | Assessment Strategies |
|  | 1.1. | Search engine optimization lab. |
|  |   |  |
|  | Criteria |
|  | 1.1. | learner uses analytical tools to parse HTML. |
|  | 1.2. | learner evaluates page structure by using browser plugins. |
|  | 1.3. | learner codes semantic markup for accessibility. |
|  | Learning Objectives |
|  | 1.a. | Plan analytical tools to parse HTML. |
|  | 1.b. | Plan using plugs-in for browsers. |
|  | 1.c. | Plan for accessibility. |

### Learning Activities

|  |  |
| --- | --- |
| 1. | Examine search engines and search results to study search engine optimization and examine HTML based forms to code server-side processing for the HTML forms. |
| 2. | Read the associated text and provided responses to related questions. |
|  | *Learning Materials* |
|  | Delegates | <http://www.tutorialspoint.com/csharp/csharp_delegates.htm> |
|  | Helper Methods | <http://www.codeproject.com/Articles/787320/An-Absolute-Beginners-Tutorial-on-HTML-Helpers-and> |
|  | ViewBag-ViewData | <http://rachelappel.com/when-to-use-viewbag-viewdata-or-tempdata-in-asp.net-mvc-3-applications/> |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
| 3. | Listen to instructor lecture on search engine optimization topics. |
| 4. | Solve sample problems from the associated text and share the results with the instructor. |
|  | *Learning Materials* |
|  | MVC 5 | <https://www.lynda.com/ASP-NET-tutorials/ASP-NET-MVC-5-Essential-Training/170334-2.html> |
|  | MVC Tutorial | <https://www.lynda.com/Visual-Studio-tutorials/Exploring-ASP-NET-MVC/157134/166061-4.html> |
| 5. | Develop instructor assigned business problems applying search engine optimization techniques. |

### Assessment Activities

|  |  |
| --- | --- |
| 1. | Submit search engine optimization lab. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |

2. Submit assigned questions and chapter problems

3. Develop then submit assigned business problems

Search engine optimization lab.

Directions

Purpose: To learn about search engine optimization.

Develop applications on specifications provided by instructor.

The applications solves business problems using search engine optimization techniques.

Target Course Competencies

|  |  |
| --- | --- |
| 1. | Plan for search engine optimization and accessibility. |

### Scoring

Rating Scale

|  |  |
| --- | --- |
| Value | Description |
| Complete | The student has created a working solution based on the provided specifications. |
| Not Complete | One or more of the assigned tasks were missing, incomplete or had error(s). |

Scoring Standard

You must earn a "complete" on all criteria to pass the assessment.

### Scoring Guide

|  |  |  |
| --- | --- | --- |
|  | Criteria | Ratings |
| 1. | learner solves the assigned business problems per instructor specifications using analytical tools. | Complete Not Complete |
| 2. | learner solves the assigned business problems per instructor specifications using browser plug-ins. | Complete Not Complete |
| 3. | learner solves the assigned business problems per instructor specifications using accessibility techniques. | Complete Not Complete |

Learning Plan - Test web applications.

Overview/Purpose

In this learning plan students will learn:

to apply working unit testing

to apply working web tests

to apply working with multiple browsers and mobile emulators

Target Competencies

|  |  |
| --- | --- |
| 1. | Test web applications. |
|  | Assessment Strategies |
|  | 1.1. | Unit test web application lab. |
|  | 1.2. | Debug web application lab. |
|  | Criteria |
|  | 1.1. | learner creates unit tests. |
|  | 1.2. | learner runs unit tests. |
|  | 1.3. | learner debugs web application in multiple web browsers. |
|  | Learning Objectives |
|  | 1.a. | Test web application using unit testing. |
|  | 1.b. | Test web application using web tests. |
|  | 1.c. | Test web application in multiple browsers and mobile emulators. |

### Learning Activities

|  |  |
| --- | --- |
| 1. | Examine already developed applications and websites and study error handling. |
| 2. | Listen to instructor lecture on topics including unit testing, web testing. |
| 3. | Read the associated text and provided responses to related questions.. |
| 4. | Solve sample problems from the associated text and share the results with the instructor. |
| 5. | Develop  instructor assigned business problems applying test plans. Examine the solutions provided by the textbook to apply them those techniques to the in-class examples. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |

### Assessment Activities

|  |  |
| --- | --- |
| 1. | Submit test web application lab. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |

2. Submit assigned questions and chapter problems

3. Develop then submit assigned business problems

Test web applications lab.

Directions

Purpose: To learn about testing web applications.

Develop applications on specifications provided by instructor.

The applications solves business problems using unit testing and web testing.

Target Course Competencies

|  |  |
| --- | --- |
| 1. | Test web applications. |

### Scoring

Rating Scale

|  |  |
| --- | --- |
| Value | Description |
| Complete | The student has created a working solution based on the provided specifications. |
| Not Complete | One or more of the assigned tasks were missing, incomplete or had error(s). |

Scoring Standard

You must earn a "complete" on all criteria to pass the assessment.

### Scoring Guide

|  |  |  |
| --- | --- | --- |
|  | Criteria | Ratings |
| 1. | learner solves the assigned business problems per instructor specifications using unit testing. | Complete Not Complete |
| 2. | learner solves the assigned business problems per instructor specifications using web testing. | Complete Not Complete |
| 3. | learner solves the assigned business problems per instructor specifications using multiple browsers and mobile emulators. | Complete Not Complete |

Learning Plan - Apply cloud based solutions.

Overview/Purpose

In this learning plan students will learn to apply working with cloud services

Target Competencies

|  |  |
| --- | --- |
| 1. | Develop ASP.net cloud based solution. |
|  | Assessment Strategies |
|  | 1.1. | ASP.net cloud based solutions lab. |
|  | Criteria |
|  | 1.1. | learner successfully logins to cloud based environment. |
|  | 1.2. | learner develops application on the cloud. |
|  | Learning Objectives |
|  | 1.a. | Develop application to establish connection with the cloud. |
|  | 1.b. | Develop application to utilize cloud based services. |

### Learning Activities

|  |  |
| --- | --- |
| 1. | Examine a cloud based solution to understand how cloud based solution works. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |
| 2. | Read the associated text and provided responses to related questions. |
|  | *Learning Materials* |
|  | Delegates | <http://www.tutorialspoint.com/csharp/csharp_delegates.htm> |
|  | Helper Methods | <http://www.codeproject.com/Articles/787320/An-Absolute-Beginners-Tutorial-on-HTML-Helpers-and> |
|  | ViewBag-ViewData | <http://rachelappel.com/when-to-use-viewbag-viewdata-or-tempdata-in-asp.net-mvc-3-applications/> |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |
| 3. | Listen to instructor lecture on various aspects of cloud based solutions. |
| 4. | Solve sample problems from the associated text and share the results with the instructor. Examine the provided examples in the textbook to apply them to the in-class problems. |
|  | *Learning Materials* |
|  | MVC 5 | <https://www.lynda.com/ASP-NET-tutorials/ASP-NET-MVC-5-Essential-Training/170334-2.html> |
|  | MVC Tutorial | <https://www.lynda.com/Visual-Studio-tutorials/Exploring-ASP-NET-MVC/157134/166061-4.html> |
| 5. | Develop instructor assigned business problems applying cloud based solution techniques. |

### Assessment Activities

|  |  |
| --- | --- |
| 1. | Submit ASP.net cloud based lab. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |

2. Submit assigned questions and chapter problems

3. Develop then submit assigned business problems

Cloud based solutions lab.

Directions

Purpose: To learn about cloud based solution techniques.

Login and develop applications on specifications provided by instructor.

The application solves business problems using Java exception handling cloud based solution techniques.

Target Course Competencies

|  |  |
| --- | --- |
| 1. | Develop ASP.net cloud based solution. |

### Scoring

Rating Scale

|  |  |
| --- | --- |
| Value | Description |
| Complete | The student has created a working solution based on the provided specifications. |
| Not Complete | One or more of the assigned tasks were missing, incomplete or had error(s). |

Scoring Standard

You must earn a "complete" on all criteria to pass the assessment.

### Scoring Guide

|  |  |  |
| --- | --- | --- |
|  | Criteria | Ratings |
| 1. | learner solves the assigned business problems per instructor specifications using cloud based services. | Complete Not Complete |
| 2. | learner solves the assigned business problems per instructor specifications using cloud based tools. | Complete Not Complete |

Learning Plan - Apply authentication and authorization techniques.

Overview/Purpose

In this learning plan students will learn:

to apply working with user authentication

to apply working with user authorization

Target Competencies

|  |  |
| --- | --- |
| 1. | Develop applications utilizing authentication and authorization techniques. |
|  | Assessment Strategies |
|  | 1.1. | Authentication lab. |
|  | 1.2. | Authorization lab. |
|  | Criteria |
|  | 1.1. | learner authenticates users using FBA - Form based authentication. |
|  | 1.2. | learner authenticates users using external authentication. |
|  | 1.3. | learner authorizes roles programmatically. |
|  | Learning Objectives |
|  | 1.a. | Develop application to authenticate users. |
|  | 1.b. | Develop application to authorize users. |

### Learning Activities

|  |  |
| --- | --- |
| 1. | Examine a web based solution to understand authorization and authentication. |
|  | *Learning Materials* |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |
| 2. | Read the associated text and provided responses to related questions. |
|  | *Learning Materials* |
|  | Delegates | <http://www.tutorialspoint.com/csharp/csharp_delegates.htm> |
|  | Helper Methods | <http://www.codeproject.com/Articles/787320/An-Absolute-Beginners-Tutorial-on-HTML-Helpers-and> |
|  | ViewBag-ViewData | <http://rachelappel.com/when-to-use-viewbag-viewdata-or-tempdata-in-asp.net-mvc-3-applications/> |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
| 3. | Listen to instructor lecture on authenticating users using FBA< External authentication and authorizing roles programaticallly. |
| 4. | Solve sample problems from the associated text and share the results with the instructor. |
|  | *Learning Materials* |
|  | MVC 5 | <https://www.lynda.com/ASP-NET-tutorials/ASP-NET-MVC-5-Essential-Training/170334-2.html> |
|  | MVC Tutorial | <https://www.lynda.com/Visual-Studio-tutorials/Exploring-ASP-NET-MVC/157134/166061-4.html> |
| 5. | Develop instructor assigned business problems applying authentication and authorization techniques. Examine a sample business problem in the book to identify development life cycle and apply it to the assigned business problem. |

### Assessment Activities

|  |  |
| --- | --- |
| 1. | Submit user authentication and authorization lab. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |

2. Submit assigned questions and chapter problems

3. Develop then submit assigned business problems

Authentication and authorization lab.

Directions

Purpose: To learn about authentication and authorization.

Develop applications on specifications provided by instructor.

The applications solves business problems using internal and external authentication and authorization techniques.

Target Course Competencies

|  |  |
| --- | --- |
| 1. | Develop applications utilizing authentication and authorization techniques. |

### Scoring

Rating Scale

|  |  |
| --- | --- |
| Value | Description |
| Complete | The student has created a working solution based on the provided specifications. |
| Not Complete | One or more of the assigned tasks were missing, incomplete or had error(s). |

Scoring Standard

You must earn a "complete" on all criteria to pass the assessment.

### Scoring Guide

|  |  |  |
| --- | --- | --- |
|  | Criteria | Ratings |
| 1. | learner solves the assigned business problems per instructor specifications using user authentication techniques. | Complete Not Complete |
| 2. | learner solves the assigned business problems per instructor specifications using user authorization techniques. | Complete Not Complete |

Learning Plan - Apply localization and globalization techniques.

Overview/Purpose

In this learning plan students will learn:

to apply working with localization

to apply working with globalization

to apply working with resources to UI

Target Competencies

|  |  |
| --- | --- |
| 1. | Develop applications utilizing globalization and localization techniques. |
|  | Assessment Strategies |
|  | 1.1. | Globalization lab. |
|  | 1.2. | Localization lab. |
|  | Criteria |
|  | 1.1. | learner develops application applying resources to UI - User Interface. |
|  | 1.2. | learner develops application setting cultures. |
|  | Learning Objectives |
|  | 1.a. | Develop application using localization strategy. |
|  | 1.b. | Develop application using globalization strategy. |
|  | 1.c. | Develop application using resources to UI. |

### Learning Activities

|  |  |
| --- | --- |
| 1. | Examine localized and globalized web solutions. |
| 2. | Read the associated text and provided responses to related questions. |
|  | *Learning Materials* |
|  | Delegates | <http://www.tutorialspoint.com/csharp/csharp_delegates.htm> |
|  | Helper Methods | <http://www.codeproject.com/Articles/787320/An-Absolute-Beginners-Tutorial-on-HTML-Helpers-and> |
|  | ViewBag-ViewData | <http://rachelappel.com/when-to-use-viewbag-viewdata-or-tempdata-in-asp.net-mvc-3-applications/> |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |
| 3. | Listen to instructor lecture on localization strategy, globalization strategy and developing applications using resources to UI. |
| 4. | Solve sample problems from the associated text and share the results with the instructor. |
|  | *Learning Materials* |
|  | MVC 5 | <https://www.lynda.com/ASP-NET-tutorials/ASP-NET-MVC-5-Essential-Training/170334-2.html> |
|  | MVC Tutorial | <https://www.lynda.com/Visual-Studio-tutorials/Exploring-ASP-NET-MVC/157134/166061-4.html> |
| 5. | Develop instructor assigned business problems applying localization and globalization techniques. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |

### Assessment Activities

|  |  |
| --- | --- |
| 1. | Submit globalization and localization lab. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Pro ASP.net MVC 4 (textbook, proprietary) |  |

2. Submit assigned questions and chapter problems

3. Develop then submit assigned business problems

4. Review for Final Exam (textbook, proprietary)

Localization and globalization lab.

Directions

Purpose: To learn about developing localized and globalized applications.

Develop applications on specifications provided by instructor. The applications solves business problems using localization and globalization techniques.

Target Course Competencies

|  |  |
| --- | --- |
| 1. | Develop applications utilizing globalization and localization techniques. |

### Scoring

Rating Scale

|  |  |
| --- | --- |
| Value | Description |
| Complete | The student has created a working solution based on the provided specifications. |
| Not Complete | One or more of the assigned tasks were missing, incomplete or had error(s). |

Scoring Standard

You must earn a "complete" on all criteria to pass the assessment.

### Scoring Guide

|  |  |  |
| --- | --- | --- |
|  | Criteria | Ratings |
| 1. | learner solves the assigned business problems per instructor specifications using localization strategy. | Complete Not Complete |
| 2. | learner solves the assigned business problems per instructor specifications using globalization strategy. | Complete Not Complete |
| 3. | learner solves the assigned business problems per instructor specifications using resources to UI. | Complete Not Complete |

Learning Plan - Apply database applications.

Overview/Purpose

In this learning plan students will learn:

to apply working with establishing database connection

to apply working with database read, write, update and delete operations

Target Competencies

|  |  |
| --- | --- |
| 1. | Develop ASP.net database applications. |
|  | Assessment Strategies |
|  | 1.1. | ASP.net database application lab. |
|  | 1.2. | ER-Model lab. |
|  | Criteria |
|  | 1.1. | learner solves the assigned business problems per instructor specifications using database connectivity. |
|  | 1.2. | learner models the assigned business problems per instructor specifications using ER-Modeling techniques. |
|  | Learning Objectives |
|  | 1.a. | Code application to establish connection with the database using appropriate database drivers. |
|  | 1.b. | Code application to read data from the database. |
|  | 1.c. | Code application to write data to the database. |
|  | 1.d. | Code application to update data in the database. |
|  | 1.e. | Code application to delete data from the database. |

### Learning Activities

|  |  |
| --- | --- |
| 1. | Examine databased physical model to develop a java application to communicate with the database. |
| 2. | Read the associated text and provided responses to related questions. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |
| 3. | Listen to instructor lecture on coding applications to perform data activities in the database, database connectivity and ER-Modeling techniques. |
| 4. | Solve sample problems from the associated text and share the results with the instructor. |
| 5. | Develop instructor assigned business problems applying database development techniques. |

### Assessment Activities

|  |  |
| --- | --- |
| 1. | Submit ASP.net database connectivity lab. |
|  | *Learning Materials* |
|  | Beginning ASP.net MVC 4 (textbook, proprietary) |  |

2. Submit assigned questions and chapter problems

3. Develop then submit assigned business problems

4. Review for Final Exam (textbook, proprietary)

Database connectivity lab.

Directions

Purpose: To learn about database connectivity.

Develop applications on specifications provided by instructor. The applications solves business problems using database connectivity.

Target Course Competencies

|  |  |
| --- | --- |
| 1. | Develop ASP.net database applications. |

### Scoring

Rating Scale

|  |  |
| --- | --- |
| Value | Description |
| Satisfactory | Learner completes code documentation per specifications provided by the instructor. |
| Unsatisfactory | Learn does not complete code documentation per specifications provided by the instructor. |

Scoring Standard

You must earn a "complete" on all criteria to pass the assessment.

### Scoring Guide

|  |  |  |
| --- | --- | --- |
|  | Criteria | Ratings |
| 1. | learner solves the assigned business problems per instructor specifications using database read operation techniques. | Satisfactory Unsatisfactory |
| 2. | learner solves the assigned business problems per instructor specifications using database write operation techniques. | Satisfactory Unsatisfactory |
| 3. | learner solves the assigned business problems per instructor specifications using database update operation techniques. | Satisfactory Unsatisfactory |
| 4. | learner solves the assigned business problems per instructor specifications using database connectivity. | Satisfactory Unsatisfactory |
| 5. | learner solves the assigned business problems per instructor specifications using database delete operation techniques. | Satisfactory Unsatisfactory |



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