CLASS TITLE: INTRODUCTION TO PROGRAMMING (Visual Languages - CIS 160)
Instructor: Kim Miller

CLASS DESCRIPTION:

This course introduces the student to the basic elements of programming in a visual language. The student becomes familiar with object-oriented program design, syntax, and logic structures by gaining experience and practice in designing and coding a sequence of increasingly complex programs. Good form design principles, structured and modular programming concepts are stressed throughout the course.

MAJOR UNITS OF INSTRUCTION:

1.1	Visual Programming Environment. (8.1)
1.2	GUI Screens for Input and Output. (8.2)
1.3	Numeric, String, and Boolean Data. (8.3)
1.4	Control Structures. (8.4)
1.5	Arrays. (8.5)
1.6	File Input and Output. (8.6)
1.7	Object Oriented Programming.
1.8	Program Maintenance. (8.7)
1.9	Project Elaboration.

UNIT OBJECTIVES:

1.1 Unit One Objectives
   At the end of this unit of instruction, the student will be able to:
   1.1.1   Identify a GUI. (9.1.1)
   1.1.2   Identify and interact with different parts of a window. (9.1.2)
   1.1.3   Define the concept of message and event driven architecture. (9.1.3)
   1.1.4   Place controls, such as text boxes, labels, picture boxes, and command buttons, on the form. (9.2.1)
   1.1.5   Manipulate controls on forms. (9.2.2)
   1.1.6   Alter properties of controls via the properties window and within the code. (9.2.3)

1.2 Unit Two Objectives
   At the end of this unit of instruction, the student will be able to:
   1.2.1   Use code-behind to add custom behavior to forms.
   1.2.2   Use controls for input and output. (9.2.4)
   1.2.3   Understand the use of and create pseudo code.
   1.2.4   Identify and explain fundamental programming language constructs.

1.3 Unit Three Objectives
   At the end of this unit of instruction, the student will be able to:
   1.3.1   Create programs containing arithmetic calculations. (9.3.1)
   1.3.2   List and order the hierarchy of the primary math operators. (9.3.2)
   1.3.3   Understand and assign values to boolean variables.
   1.3.4   Use various string manipulation commands. (9.3.3)

1.4 Unit Four Objectives
   At the end of this unit of instruction, the student will be able to:
   1.4.1   Use comparison and logical operators. (9.4.1)
   1.4.2   Code selection structures. (9.4.2)
   1.4.3   Code repetition structures. (9.4.3)

1.5 Unit Five Objectives
   At the end of this unit of instruction, the student will be able to:
   1.5.1   Define an array and load the array with data. (9.5.1)
   1.5.2   Define collections and load the collection with data. (9.5.6)
   1.5.3   Filter and sort data in collections. (9.5.7)
   1.5.4   Pass arrays and collections to methods. (9.5.5)

1.6 Unit Six Objectives
   At the end of this unit of instruction, the student will be able to:
   1.6.1   Understand the differences between sequential, random/direct/relative, and
              indexed file storage. (9.6.1)
   1.6.2   Understand the differences between Serialization and Deserialization.
   1.6.2   Understand the differences between Files and Streams.
   1.6.3   Code programs to read and write files to and from storage.
   1.6.2   Code user-defined data types to layout a record of data storage. (9.6.2)

1.7 Unit Seven Objectives
   At the end of this unit of instruction, the student will be able to:
   1.7.1   Recognize different approaches to coding
   1.7.2   Discuss object-oriented programming in general
   1.7.3   Identify key object-oriented concepts in a specific language9.1.1

1.8 Unit Seven Objectives
   At the end of this unit of instruction, the student will be able to:
   1.8.1   Recognize and eliminate dead code. (9.7.1)
   1.8.2   Modify old code and update program execution. (9.7.2)
   1.8.3   Recognize the term refactoring and apply some basic refactorings to code.
   1.8.4   Understand the value of coding in layers.

1.9 Unit Eight Objectives
   At the end of this unit of instruction, the student will be able to:
   1.9.1   Elaborate the certificate project to further incorporate concepts from the course.

CLASS TITLE: **PROGRAMMING WITH DATABASES** (Introduction to Database – CIS 303)
Instructor: Dennis Welu

CLASS DESCRIPTION:

Provides an introduction to creating and managing a database for application development. Database terms are identified and definitions are standardized with a bias towards a programmer's view of the database system. An understanding of the physical and logical organization of data and the meaningful representation of data relationships and structures are presented and reinforced with hands-on examples.

MAJOR UNITS OF INSTRUCTION:

1.1   Define Database Design and Data Structures. (9.2, 9.4, and 9.6)
1.2   Understand Visual Modeling, Views, and Normalization. (9.5)
1.3   Discuss Standard Relational Data Model Manipulation.
1.4   Perform Hands-On Administration. (9.12)
1.5   Use Datasets in Code to Read Database Data.
1.6   Complete the incorporation of a database to the course project.

UNIT OBJECTIVES:

2.1   At the end of this unit of instruction, the student will be able to:
       2.1.1   Discuss the general process of database design. (10.4.1)
       2.1.2   Define database design goals. (10.4.2)
       2.1.3   Define characteristics of the hierarchical, network, and relational data models.
       2.1.4   Discuss the basic database design methodology. (10.4.4)
       2.1.5   Explain the entity-relationship approach to database design. (10.4.7)
       2.1.6   Explain the process of the information level. (10.4.5)
       2.1.7   Explain the process of the physical level of the database design. (10.4.6)
       2.1.8   Discuss the process of the physical database design. (10.4.8)
       2.1.9   Discuss the basic concepts and terminology of the relational data model. (10.6.9)
       2.1.10   Define data structures. (10.2.1)

2.2   At the end of this unit of instruction, the student will be able to:
       2.2.1   Create relationships between data structures.
       2.2.2   Discuss and create indexes.
       2.2.3   Define Schema.
       2.2.4   Use a modeling tool to view and change data structures.
       2.2.5   Discuss the meaning and use of user views. (10.4.3)
       2.2.6   Discuss alternatives for gaining authorization to the database.
       2.2.7   Define the process of normalization. (10.5.1)
       2.2.8   Discuss the application of normalization to database design. (10.5.8)

2.3   At the end of this unit of instruction, the student will be able to:
       2.3.1   Define a data dictionary and understand its importance. (10.6.1)
       2.3.2   Define Data Definition Language (DDL). (10.6.2)
       2.3.3   Define Data Manipulation Language (DML). (10.6.3)
       2.3.4   Use DML to create simple database views.
       2.3.5   Discuss the meaning and use of triggers.

2.3.6   Discuss the meaning and use of stored procedures.

2.4   At the end of this unit of instruction, the student will be able to:
       2.4.1   Create database files on a PC based database management system. (10.12.2)
       2.4.2   Manipulate database files on a PC based data base management system. (10.12.3)
       2.4.3   Backup and restore RDBMS files.
       2.4.4   Generate SQL scripts from existing structure.
       2.4.5   Describe various concerns of the DBA.

2.5   At the end of this unit of instruction, the student will be able to:
       2.5.1   Discuss what a DataSet is.
       2.5.2   Make a coded connection with a database.
       2.5.3   Query the database to retrieve data.
       2.5.4   Insert, update, and delete data.
       2.5.5   Write application programs using a PC based data base management system.
                      (10.12.4)

2.6   At the end of this unit of instruction, the student will be able to:
       2.6.1   Complete the incorporation of a database system to the certificate project.

CLASS TITLE: PROJECT MANAGEMENT AND PROCESS SURVEY
Instructor: Kim Miller

CLASS DESCRIPTION:

Provides an introduction to project management and processes related to the technical industry. Students will investigate the software development life cycle, technology roles and how their interaction with the software development life cycle. Students will be introduced to the Waterfall and Scrum development methodologies. The majority of the course will focus on learning and practicing the Scrum methodology. Students will participate in 2 Mini-Scrums. These mini-scrums will give them the opportunity to practice Scrum along with using the programming skills from previous courses to add features to the certificate project's website and their personal blogs.

MAJOR UNITS OF INSTRUCTION:

4.1   Software Development Lifecycle
4.2   Common Development Process Models
4.3   Project Management Overview
4.4   Scrum Process Overview and Workshop

UNIT OBJECTIVES:

4.1   Unit One Objectives.
        At the end of this unit, the student will be able to:
        4.1.1   Discuss the various roles in the technology industry.
        4.1.2   State the roles and activities within each step of the software development lifecycle.
        4.1.3   Discuss the importance of the client in the development/design process. (Foundations 9.3.1)
        4.1.4   Utilize active communication skills to understand the problem as presented by the client. (Foundations 9.3.2)
        4.1.5   Understand the relationship between the designer, client, and audience. (Foundations 9.3.4)

4.2   Unit Two Objectives.
        At the end of this unit, the student will be able to:
        4.2.1   Explain the waterfall development process model
        4.2.2   Discuss industries and usage of the waterfall model.
        4.2.3   Example the agile development process model.
        4.2.4   Discuss industries and usage of the agile model.

4.3   Unit Three Objectives.
        At the end of this unit the student will be able to:
        4.3.1   Define what project management is.
        4.3.2   Identify and discuss the triad of constraints.
        4.3.3   Understand the tasks of a project manager throughout the SDLC.

4.4   Unit Four Objectives.
        At the end of this unit, the student will be able to:
        4.4.1   Describe the agile methodology
        4.4.2   Identify XP processes and how they are valuable to the SDLC

CLASS TITLE: WEB APPLICATION AND DESIGN (Fundamentals of Web Design - CIS 197)
Instructor: Kim Miller

CLASS DESCRIPTION:

Introduces the student to the basics of the creation and maintenance of Web pages. The hypertext markup language is used in the creation of Web pages. Good screen layout and design principles are stressed. The use of application software to create web pages is included. Enhancements and extensions of HTML as well as the incorporation of scripting in creating web pages will be explored. By the end of the class students will have built a classic HTML website for a movie theater and a personal WordPress website with their resume and a blog.

MAJOR UNITS OF INSTRUCTION:

3.1	Website Planning and Design (8.1)
3.2	Basics of Hypertext, HTML, and Web Page Design Cycle. (8.2)
3.3	Programming in JavaScript. (8.7)
3.4	Creating Style Sheets. (8.5)
3.5	Forms, Cookies, SEO, Site Testing, World Wide Concerns and Deployment (8.10)
3.6	Content management system, WordPress (no original number)

UNIT OBJECTIVES:

3.1   Unit One Objectives.
At the end of this unit, the student will be able to:
3.1.1   State the steps and activities within each step of the design cycle. (9.1.1)
3.1.2   Define Typography.
3.1.3   Learn about the theory of colors
3.1.4   Build a style guide.
3.1.5   Prepare a flow charts for a given scenario. (9.1.2)

3.2   Unit Two Objectives.
At the end of this unit, the student will be able to:
3.2.1   Explain the use of hypertext protocol to send information over the World Wide Web. (9.2.3)
3.2.2   Use the View Page Info and View Source menu options from within a browser. (9.2.4)
3.2.3   Dissect an elementary HTML listing and explain the meaning of the HTML codes. (9.2.5)
3.2.4   Understand the browser compatibility issues. (9.2.7)
3.2.5   Build HTML web pages using Microsoft WebMatrix.
3.2.6   Build HTML web pages with tables, images, and hyperlinks.

3.3   Unit Three Objectives.
At the end of this unit the student will be able to:
3.3.1   Discuss JavaScript programs and explain the meaning of the JavaScript programming elements. (9.7.1)
3.3.2   Attach JavaScript code to a web page. (9.7.2)
3.3.3   Understand the difference between client side scripting and server side scripting. (9.4.5)

3.3.4   Interact with server side applications. (9.4.6)

3.4   Unit Four Objectives.
      At the end of this unit, the student will be able to:
      3.4.1   Describe the three different types of Cascading Style sheets. (9.5.1)
      3.4.2   Add inline, embedded, and external sheets to a web page. (9.5.2)
      3.4.3   Build CSS using Element, ID, Class, and Descendent selectors.
      3.4.4   Discuss CSS Inheritance

3.5   Unit Five Objectives.
      At the end of this unit, the student will be able to:
      3.5.1   Add HTML web forms to a website.
      3.5.2   Use web languages to create dynamic web pages. (9.4.1)
      3.5.3   Include if/else and while controls in a web page. (9.4.2)
      3.5.4   Include functions and event handlers in a web page. (9.4.3)
      3.5.5   Accept and handle numeric and string characters. (9.4.4)
      3.5.6   Create and use cookies. (9.4.8)
      3.5.7   Discuss the importance of e-commerce and the role it plays in today's economy.
      3.5.8   Discuss the importance of conducting internal testing and be able to perform internal testing on a developed website. (9.10.2)
      3.5.9   Discuss the importance of conducting external testing and construct sample client surveys. (9.10.3)
      3.5.10   Discuss ways of initiating the update process and the practical concerns of providing updates to websites. (9.10.4)

3.6   Unit Six Objectives.
      At the end of this unit, the student will be able to:
      3.6.1   Develop websites that offer content management systems. (9.4.10)
      3.6.2   Develop a WordPress website containing pages and blogging capability.
      3.6.3   Learn blogging best practices.

NORTHEAST IOWA COMMUNITY COLLEGE
Business and Community Solutions

IT Foundations Programming Certificate
Course Guide

September 28 – January 25 (Mon & Wed 6:00pm-9:00pm)
Cost: $849 Registration Deadline: September 19, 2016

Outcome goal - create a project that incorporates the programming certificate concepts.

This 90-hour certificate is designed for those who have successfully completed the Foundations of IT certificate, and who wish to enhance their skills and employability as entry-level computer programmers. Programmers are the creative minds behind software programs who develop the instructions and languages computers use to operate. Jobs in this field are hot and demand for trained workers is expected to grow over the next decade. The computer programming certificate emphasizes knowledge and skills required to design, develop, test, and document software to support the needs of end-users. Classes focus on hands-on training in programming theory, C# programming, SQL database, and HTML5 and WordPress web programming.

Instructional Classes

1. **Introduction to Programming; Instructor: Kim Miller**
2. **Programming with Databases; Instructor: Dennis Welu**
3. **Web Application & Design; Instructor: Kim Miller**
4. **Project Management & Process Survery; Instructor: Kim Miller**

CLASS TITLE: INTRODUCTION TO PROGRAMMING (Visual Languages - CIS 160)
Instructor: Kim Miller

CLASS DESCRIPTION:

This course introduces the student to the basic elements of programming in a visual language. The student becomes familiar with object-oriented program design, syntax, and logic structures by gaining experience and practice in designing and coding a sequence of increasingly complex programs. Good form design principles, structured and modular programming concepts are stressed throughout the course.

MAJOR UNITS OF INSTRUCTION:

1.1   Visual Programming Environment. (8.1)
1.2   GUI Screens for Input and Output. (8.2)
1.3   Numeric, String, and Boolean Data. (8.3)
1.4   Control Structures. (8.4)
1.5   Arrays. (8.5)
1.6   File Input and Output. (8.6)
1.7   Object Oriented Programming.
1.8   Program Maintenance. (8.7)
1.9   Project Elaboration.

UNIT OBJECTIVES:

1.1 Unit One Objectives
> At the end of this unit of instruction, the student will be able to:
> 1.1.1   Identify a GUI. (9.1.1)
> 1.1.2   Identify and interact with different parts of a window. (9.1.2)
> 1.1.3   Define the concept of message and event driven architecture. (9.1.3)
> 1.1.4   Place controls, such as text boxes, labels, picture boxes, and command buttons, on the form. (9.2.1)
> 1.1.5   Manipulate controls on forms. (9.2.2)
> 1.1.6   Alter properties of controls via the properties window and within the code. (9.2.3)

1.2 Unit Two Objectives
> At the end of this unit of instruction, the student will be able to:
> 1.2.1   Use code-behind to add custom behavior to forms.
> 1.2.2   Use controls for input and output. (9.2.4)
> 1.2.3   Understand the use of and create pseudo code.
> 1.2.4   Identify and explain fundamental programming language constructs.

1.3 Unit Three Objectives
> At the end of this unit of instruction, the student will be able to:
> 1.3.1   Create programs containing arithmetic calculations. (9.3.1)
> 1.3.2   List and order the hierarchy of the primary math operators. (9.3.2)
> 1.3.3   Understand and assign values to boolean variables.
> 1.3.4   Use various string manipulation commands. (9.3.3)

1.4 Unit Four Objectives
> At the end of this unit of instruction, the student will be able to:
> 1.4.1   Use comparison and logical operators. (9.4.1)
> 1.4.2   Code selection structures. (9.4.2)
> 1.4.3   Code repetition structures. (9.4.3)

1.5 Unit Five Objectives
> At the end of this unit of instruction, the student will be able to:
> 1.5.1   Define an array and load the array with data. (9.5.1)
> 1.5.2   Define collections and load the collection with data. (9.5.6)
> 1.5.3   Filter and sort data in collections. (9.5.7)
> 1.5.4   Pass arrays and collections to methods. (9.5.5)

1.6 Unit Six Objectives
> At the end of this unit of instruction, the student will be able to:
> 1.6.1   Understand the differences between sequential, random/direct/relative, and indexed file storage. (9.6.1)
> 1.6.2   Understand the differences between Serialization and Deserialization.
> 1.6.2   Understand the differences between Files and Streams.
> 1.6.3   Code programs to read and write files to and from storage.
> 1.6.2   Code user-defined data types to layout a record of data storage. (9.6.2)

1.7 Unit Seven Objectives
    At the end of this unit of instruction, the student will be able to:
    1.7.1   Recognize different approaches to coding
    1.7.2   Discuss object-oriented programming in general
    1.7.3   Identify key object-oriented concepts in a specific language9.1.1

1.8 Unit Seven Objectives
    At the end of this unit of instruction, the student will be able to:
    1.8.1   Recognize and eliminate dead code. (9.7.1)
    1.8.2   Modify old code and update program execution. (9.7.2)
    1.8.3   Recognize the term refactoring and apply some basic refactorings to code.
    1.8.4   Understand the value of coding in layers.

1.9 Unit Eight Objectives
    At the end of this unit of instruction, the student will be able to:
    1.9.1   Elaborate the certificate project to further incorporate concepts from the course.

CLASS TITLE: **PROGRAMMING WITH DATABASES** (Introduction to Database – CIS 303)
Instructor: Dennis Welu

CLASS DESCRIPTION:

    Provides an introduction to creating and managing a database for application development. Database
    terms are identified and definitions are standardized with a bias towards a programmer's view of the
    database system. An understanding of the physical and logical organization of data and the meaningful
    representation of data relationships and structures are presented and reinforced with hands-on examples.

MAJOR UNITS OF INSTRUCTION:

    2.1   Define Database Design and Data Structures. (9.2, 9.4, and 9.6)
    2.2   Understand Visual Modeling, Views, and Normalization. (9.5)
    2.3   Discuss Standard Relational Data Model Manipulation.
    2.4   Perform Hands-On Administration. (9.12)
    2.5   Use Datasets in Code to Read Database Data.
    2.6   Complete the incorporation of a database to the course project.

UNIT OBJECTIVES:

    2.1   At the end of this unit of instruction, the student will be able to:
             2.1.1   Discuss the general process of database design. (10.4.1)
             2.1.2   Define database design goals. (10.4.2)
             2.1.3   Define characteristics of the hierarchical, network, and relational data models.
             2.1.4   Discuss the basic database design methodology. (10.4.4)
             2.1.5   Explain the entity-relationship approach to database design. (10.4.7)
             2.1.6   Explain the process of the information level. (10.4.5)
             2.1.7   Explain the process of the physical level of the database design. (10.4.6)
             2.1.8   Discuss the process of the physical database design. (10.4.8)
             2.1.9   Discuss the basic concepts and terminology of the relational data model. (10.6.9)
             2.1.10   Define data structures. (10.2.1)

2.2   At the end of this unit of instruction, the student will be able to:
       2.2.1   Create relationships between data structures.
       2.2.2   Discuss and create indexes.
       2.2.3   Define Schema.
       2.2.4   Use a modeling tool to view and change data structures.
       2.2.5   Discuss the meaning and use of user views. (10.4.3)
       2.2.6   Discuss alternatives for gaining authorization to the database.
       2.2.7   Define the process of normalization. (10.5.1)
       2.2.8   Discuss the application of normalization to database design. (10.5.8)

2.3   At the end of this unit of instruction, the student will be able to:
       2.3.1   Define a data dictionary and understand its importance. (10.6.1)
       2.3.2   Define Data Definition Language (DDL). (10.6.2)
       2.3.3   Define Data Manipulation Language (DML). (10.6.3)
       2.3.4   Use DML to create simple database views.
       2.3.5   Discuss the meaning and use of triggers.
       2.3.6   Discuss the meaning and use of stored procedures.

2.4   At the end of this unit of instruction, the student will be able to:
       2.4.1   Create database files on a PC based database management system. (10.12.2)
       2.4.2   Manipulate database files on a PC based data base management system. (10.12.3)
       2.4.3   Backup and restore RDBMS files.
       2.4.4   Generate SQL scripts from existing structure.
       2.4.5   Describe various concerns of the DBA.

2.5   At the end of this unit of instruction, the student will be able to:
       2.5.1   Discuss what a DataSet is.
       2.5.2   Make a coded connection with a database.
       2.5.3   Query the database to retrieve data.
       2.5.4   Insert, update, and delete data.
       2.5.5   Write application programs using a PC based data base management system. (10.12.4)

2.6   At the end of this unit of instruction, the student will be able to:
       2.6.1   Complete the incorporation of a database system to the certificate project.

CLASS TITLE: WEB APPLICATION AND DESIGN (Fundamentals of Web Design - CIS 197)
Instructor: Kim Miller

CLASS DESCRIPTION:

    Introduces the student to the basics of the creation and maintenance of Web pages. The hypertext markup language is used in the creation of Web pages. Good screen layout and design principles are stressed. The use of application software to create web pages is included. Enhancements and extensions of HTML as well as the incorporation of scripting in creating web pages will be explored. By the end of the class students will have built a classic HTML website for a movie theater and a personal WordPress website with their resume and a blog.

MAJOR UNITS OF INSTRUCTION:

 3.1 Website Planning and Design (8.1)
 3.2 Basics of Hypertext, HTML, and Web Page Design Cycle. (8.2)
 3.3 Programming in JavaScript. (8.7)
 3.4 Creating Style Sheets. (8.5)
 3.5 Forms, Cookies, SEO, Site Testing, World Wide Concerns and Deployment (8.10)
 3.6 Content management system, WordPress (no original number)

UNIT OBJECTIVES:

 3.1 Unit One Objectives.
   At the end of this unit, the student will be able to:
   3.1.1 State the steps and activities within each step of the design cycle. (9.1.1)
   3.1.2 Define Typography.
   3.1.3 Learn about the theory of colors
   3.1.4 Build a style guide.
   3.1.5 Prepare a flow charts for a given scenario. (9.1.2)

 3.2 Unit Two Objectives.
   At the end of this unit, the student will be able to:
   3.2.1 Explain the use of hypertext protocol to send information over the World Wide Web. (9.2.3)
   3.2.2 Use the View Page Info and View Source menu options from within a browser. (9.2.4)
   3.2.3 Dissect an elementary HTML listing and explain the meaning of the HTML codes. (9.2.5)
   3.2.4 Understand the browser compatibility issues. (9.2.7)
   3.2.5 Build HTML web pages using Microsoft WebMatrix.
   3.2.6 Build HTML web pages with tables, images, and hyperlinks.

 3.3 Unit Three Objectives.
   At the end of this unit the student will be able to:
   3.3.1 Discuss JavaScript programs and explain the meaning of the JavaScript programming elements. (9.7.1)
   3.3.2 Attach JavaScript code to a web page. (9.7.2)
   3.3.3 Understand the difference between client side scripting and server side scripting. (9.4.5)
   3.3.4 Interact with server side applications. (9.4.6)

 3.4 Unit Four Objectives.
   At the end of this unit, the student will be able to:
   3.4.1 Describe the three different types of Cascading Style sheets. (9.5.1)
   3.4.2 Add inline, embedded, and external sheets to a web page. (9.5.2)
   3.4.3 Build CSS using Element, ID, Class, and Descendent selectors.
   3.4.4 Discuss CSS Inheritance

 3.5 Unit Five Objectives.
   At the end of this unit, the student will be able to:
   3.5.1 Add HTML web forms to a website.
   3.5.2 Use web languages to create dynamic web pages. (9.4.1)
   3.5.3 Include if/else and while controls in a web page. (9.4.2)

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3.5.4	Include functions and event handlers in a web page. (9.4.3)
3.5.5	Accept and handle numeric and string characters. (9.4.4)
3.5.6	Create and use cookies. (9.4.8)
3.5.7	Discuss the importance of e-commerce and the role it plays in today's economy.
3.5.8	Discuss the importance of conducting internal testing and be able to perform internal testing on a developed website. (9.10.2)
3.5.9	Discuss the importance of conducting external testing and construct sample client surveys. (9.10.3)
3.5.10	Discuss ways of initiating the update process and the practical concerns of providing updates to websites. (9.10.4)

3.6   Unit Six Objectives.
        At the end of this unit, the student will be able to:

3.6.1	Develop websites that offer content management systems. (9.4.10)
3.6.2	Develop a WordPress website containing pages and blogging capability.
3.6.3	Learn blogging best practices.

CLASS TITLE: PROJECT MANAGEMENT AND PROCESS SURVEY
Instructor: Kim Miller

CLASS DESCRIPTION:

Provides an introduction to project management and processes related to the technical industry. Students will investigate the software development life cycle, technology roles and how their interaction with the software development life cycle. Students will be introduced to the Waterfall and Scrum development methodologies. The majority of the course will focus on learning and practicing the Scrum methodology. Students will participate in 2 Mini-Scrums. These mini-scrums will give them the opportunity to practice Scrum along with using the programming skills from previous courses to add features to the certificate project's website and their personal blogs.

MAJOR UNITS OF INSTRUCTION:

4.1	Software Development Lifecycle
4.2	Common Development Process Models
4.3	Project Management Overview
4.4	Scrum Process Overview and Workshop

UNIT OBJECTIVES:

4.1   Unit One Objectives.
        At the end of this unit, the student will be able to:

4.1.1	Discuss the various roles in the technology industry.
4.1.2	State the roles and activities within each step of the software development lifecycle.
4.1.3	Discuss the importance of the client in the development/design process. (Foundations 9.3.1)
4.1.4	Utilize active communication skills to understand the problem as presented by the client. (Foundations 9.3.2)
4.1.5	Understand the relationship between the designer, client, and audience. (Foundations 9.3.4)

4.2   Unit Two Objectives.
        At the end of this unit, the student will be able to:
        4.2.1   Explain the waterfall development process model
        4.2.2   Discuss industries and usage of the waterfall model.
        4.2.3   Example the agile development process model.
        4.2.4   Discuss industries and usage of the agile model.

4.3   Unit Three Objectives.
        At the end of this unit the student will be able to:
        4.3.1   Define what project management is.
        4.3.2   Identify and discuss the triad of constraints.
        4.3.3   Understand the tasks of a project manager throughout the SDLC.

4.4   Unit Four Objectives.
        At the end of this unit, the student will be able to:
        4.4.1   Describe the agile methodology
        4.4.2   Identify XP processes and how they are valuable to the SDLC
        4.4.3   Explain the Scrum ceremonies
        4.4.4   Experience the Scrum process through 2 mini-sprint workshops