This course will cover software development in the Microsoft .NET framework. Visual C# .NET will be used as the development tool to discuss and practice Windows-based applications and Web-based applications. This course prepares students for Microsoft.NET Framework Web-Based Development Certificate and Windows Client Development Certificate.

CATALOG DESCRIPTION:

PREREQUISITES:

COREQUISITES:

ADVISORIES:
- CS G153: Java Programming, Introduction
  or
- CS G175: C++ Programming

ASSIGNED DISCIPLINES:
- Computer science

MATERIAL FEE: Yes [ ] No [X] Amount: $0.00

CREDIT STATUS: Noncredit [ ] Credit - Degree Applicable [X] Credit - Not Degree Applicable [ ]

GRADING POLICY: Pass/No Pass [X] Standard Letter [X] Not Graded [ ] Satisfactory Progress [ ]

OPEN ENTRY/OPEN EXIT: Yes [ ] No [X]

TRANSFER STATUS: CSU Transferable[X] UC/CSU Transferable[ ] Not Transferable[ ]

BASIC SKILLS STATUS: Yes [ ] No [X] LEVELS BELOW TRANSFER: Not Applicable

CALIFORNIA CLASSIFICATION CODES: Y - Not Applicable

NON CREDIT COURSE CATEGORY: Y - Not applicable, Credit Course

OCCUPATIONAL (SAM) CODE: C

REPEATABLE ACCORDING TO STATE GUIDELINES: No [X] Yes [ ] NUMBER REPEATS:

REQUIRED FOR DEGREE OR CERTIFICATE: No [ ] Yes [X]
- Software Development(Certificate of Achievement)
- Software Development(Associate in Arts)
- Video Game Development(Associate in Arts)
- Video Game Development(Certificate of Achievement)

GE AND TRANSFER REQUIREMENTS MET:

COURSE LEVEL STUDENT LEARNING OUTCOME(S) Supported by this course:
1. understand the basic principles of the event-driven and graphical programming model.

2. explain the mechanisms for proper class hierarchy and component design in .Net.

COURSE OBJECTIVES:

1. gain theoretical and experiential understanding of the following subjects:
   · Basics of Windows programming
   · Program flow
   · Object Oriented Programming (OOP)
   · Exception Handling
   · Multithreading
   · Microsoft .NET framework
   · GUI development
   · Working with graphics
   · Common Language Runtime (CLR)
   · Common Language Specification (CLS)
   · Common Type System (CTS)
   · NET Assemblies
   · Intermediate Language (CIL)
   · Using .NET Collections
   · Working with graphics
   · Data Binding with ADO .NET
   · Using Lists and Dictionaries
   · Introducing LINQ
   · Introduction to Visual Studio
   · Data Binding with ADO .NET
   · Using Arrays and Collections
   · Using Enumerations and Structures
   · Making Choices
   · Repeating Program Steps
   · Handling Errors
   · Preventing Bugs
   · Defining Classes
   · Initializing Objects
   · Fine-Tuning Classes
   · Overloading Operators
   · Using Interfaces
   · Making Generic Classes
   · Reading and Writing Files
   · Using File System Classes
   · Printing
   · Using the Clipboard
   · Providing Drag and Drop
   · Localizing Programs
   · Accessing databases with ADO .NET and SQL
   · Creating applications for the WWW (World Wide Web)
   · Designing and building components
   · Designing and building Web Services
   · Inheritance among .NET languages such as Visual Basic .NET

COURSE CONTENT:

LECTURE CONTENT:

· Basics of Windows Programming
· Build objects
· Discuss structured programming
· Perform exception handling
· Build applications with multithreading
· Discuss Microsoft .NET framework
· Build applications with GUI
· Build graphical user interface (GUI) functionality
· Access databases with ADO .NET and SQL
· Modify application to run on the WWW
· Rewrite sections of the program by Refactoring
· Rewrite a component as a Web Service with XML data exchange
· Inherit from objects written in Visual Basic .NET

LABORATORY CONTENT:

· Basics of Windows Programming
· Build objects
· Discuss structured programming
· Perform exception handling
· Build applications with multithreading
· Discuss Microsoft .NET framework
· Build applications with GUI
· Build graphical user interface (GUI) functionality
· Access databases with ADO .NET and SQL
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· Rewrite a component as a Web Service with XML data exchange
· Inherit from objects written in Visual Basic .NET

METHODS OF INSTRUCTION:

A. Lecture:
B. Lab:
C. Independent Study:

INSTRUCTIONAL TECHNIQUES:
COURSE ASSIGNMENTS:

Reading Assignments

Students will be assigned multiple chapters from the required books. External material will be made known to students to encourage further studies into specific topics. Various current (up-to-date) handouts will be made available to students on component programming, Visual tools; third-party controls; and latest development strategies.

Out-of-class Assignments

An optional library research paper will promote further study and research in current programming practices or other related topics selected by the student and approved by the instructor.

Writing Assignments

Students will be required to complete software development projects presented to them in the form of business automation problems requiring solution implementation. Students will be required to write documentation on their projects.

METHODS OF STUDENT EVALUATION:

Midterm Exam
Final Exam
Written Assignments
Essay Examinations
Objective Examinations
Report
Projects (ind/group)
Problem Solving Exercises
Skills Demonstration

Demonstration of Critical Thinking:

Students will be demonstrating their laboratory projects. Optional research papers and classroom presentations will further demonstrate their ability in critical thinking and problem solving.

Required Writing, Problem Solving, Skills Demonstration:

Students will be required to complete software development projects presented to them in the form of business automation problems requiring solution implementation. Students will be required to write documentation on their projects.

TEXTS, READINGS, AND RESOURCES:

TextBooks:
3. Scott Mitchell. Sam’s Teach Yourself ASP.NET 4 in 24 Hours, 1st ed. Sams, 2010

Other:
1. A syllabus, and multiple reference material related to the latest .NET development principles will be distributed by the instructor.

LIBRARY:

Adequate library resources include:

Comments:

Attachments:

Attached Files