CS 3160 : WINDOWS APPLICATION DEVELOPMENT

Semester Hours: 3.0          Contact Hours: 3
Coordinator: Jadwiga A. Carlson
Text: Starting Out With Visual C#
Author: TONY GADDIS
Year: 2012

SPECIFIC COURSE INFORMATION

Catalog Description:
Implementing a graphical user interface on the Windows operating system with object-oriented programming. Event-driven programming; dialogs and controls; data validation; graphics; database access; n-tier application design. Prerequisite: CS 2020. Approved for distance education.

Course type: SELECTED ELECTIVE

SPECIFIC COURSE GOALS

- I can utilize a wide range of features in C# to write programs.
- I can write Windows Forms applications in C# using .NET Framework.
- I can use data in the applications, including data stored in files, in XML format, and in database.
- I can create and manipulate graphical images using Windows GDI+.
- I can analyze problem requirements in order to understand what type of data and processes are involved in the system.
- I can design an object-oriented approach to satisfy those requirements.
- I can organize program code to implement the design.
- I can verify that the results obtained satisfy the original requirements.

LIST OF TOPICS COVERED

- The .NET Architecture
• Framework Class Library (FCL)
  • Common Type System (CTS)
    • Common Language Specification (CLS)
• Visual Studio .NET Development Environment
• Programming language topics
  • Namespaces
  • Values and references
  • Collections (Array, ArrayList, ...)
  • Properties
  • File handling
  • Exception handling
• GUI Programming in .NET
  • Controls (text box, list box, button, etc.)
  • Integrating mouse and keyboard
  • Timers
  • Dialog boxes
  • Creating menus (menu bars and context menus)
  • Using Text and Fonts
• Graphical output (GDI+)
  • Two-dimensional drawing
  • Text drawing
• Retrieving data from a database
  • SQL
  • ADO.NET
  • XML as a transport format and protocol
• n-tier Application Design
• Brief overview of web application development using ASP.NET

Approximately 10 lab exercises will be given covering the various topics in the syllabus.