CS 3160 : WINDOWS APPLICATION DEVELOPMENT

Semester Hours: 3.0
Contact Hours: 3
Coordinator: Jadwiga A. Carlson
Text: C# Programming - From Problem Analysis to Program Design
Author: BARBARA DOYLE
Year: 2014

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.

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
  o Framework Class Library (FCL)
  o Common Type System (CTS)
  o Common Language Specification (CLS)

• Visual Studio .NET Development Environment

• Programming language topics
  o Namespaces
  o Values and references
  o Collections (Array, ArrayList, ...)
  o Properties
  o File handling
  o Exception handling

• GUI Programming in .NET
  o Controls (text box, list box, button, etc.)
  o Integrating mouse and keyboard
  o Timers
  o Dialog boxes
  o Creating menus (menu bars and context menus)
  o Using Text and Fonts

• Graphical output (GDI+)
  o Two-dimensional drawing
  o Text drawing

• Retrieving data from a database
  o SQL
  o ADO.NET
  o 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.