CS 3160: WINDOWS APPLICATION DEVELOPMENT

Semester Hours: 3.0
Contact Hours: 3
Coordinator: Jadwiga A. Carlson
Text: Starting Out With Visual C#
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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.

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.