

CS 3160 : WINDOWS APPLICATION DEVELOPMENT

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