# Information on the CPSC 3118 GUI Final Exam

**Date:**  Wednesday, May 7, 2014

**Time and Duration:** 8:00 – 10:00am, 2 hours

**Format of Exam:** In-class Practical, Open-book  
Multiple Choice Questions (20 pts)

User Interface Projects (20 pts)  
develop a Windows application using Visual Basic features (160 pts)

**Learning Objectives:**

After completing this course,

* Students will demonstrate knowledge of the graphic user interface design and development.
  + 1. Study of graphical user interfaces.
    2. Study of programming languages used to implement user interfaces.
* Students will demonstrate ability to program graphical user interfaces using Visual Basic .NET.
  + 1. Study of how to program applications using Visual Basic .NET.

**What to expect:**

The exam covers material from

* The Essential Guide to User Interface Design, 3rd Edition
  + Ch 1- Importance of UI
  + Ch 2 – Characteristics of Graphical & Web UI
  + Step 1 & 2 – Understand User & Business Function
  + Step 3 & 4 – Principles of Good Design
  + Step 5 & 6 – Windows, Interaction Devices
  + Step 7 & 8 – Screen Controls, Text Messages
  + Step 9 & **10** – Feedback, **Internationalization**
  + **Step 11 & 12 – Graphics, Colors**
  + **Step 13 & 14 – Layout, Testing**
* **User Interface Project Presentations**
  + **Android for mobile devices Kindle (eReaders)**
  + **Windows 8 for mobile Google Glass**
  + **OS X for Macintosh Augmented reality (Occulus Rift)**
* *Microsoft Visual Basic 2012 for Windows, Mobile, Web, Office, and Database Applications Comprehensive*
* Ch 1 - Introduction to Visual Basic 2012 Programming
* Ch 2 - Program and Graphical User Interface Design
* Ch 3 - Program Design and Coding
* Ch 4 - Variables and Arithmetic Operations
* Ch 5 - Decision Structures
* Ch 6 - Loop Structures
* Ch 7 - Using Procedures and Exception Handling
* **Ch 8 - Using Arrays and File Handling**
* **Ch 9 - Creating Web Applications**
* **Ch 10 - Incorporating Databases with ADO.NET**
* **Ch 11 - Multiple Classes and Inheritance**
* **Ch 12 - Windows Store App**

You’ll be tested on the use of Visual Studio controls and concepts including the following:

|  |  |
| --- | --- |
| * Text boxes * Picture boxes * Buttons * Group boxes * Check boxes * Radio buttons * Labels * **Message boxes** * **MenuStrip** * **InputBox** * **ListBox** * **DropDownList** * **Calendar** | * Data types * Decision structures (ifs and select-case) * Validate input data   + RequiredField Validator   + Range Validator   + CompareValidator   + RegularExpressionValidator * Loops (for-Next, Do While, Do-Until) * **Try-Catch** * **Procedures and Functions**   + **Call by value**   + **Call by reference** * **Arrays** * **Text file I/O; comma-delimited files** * **Multiple Forms** * **Connect to a database** * **Create/instantiate/uses classes&subclasses** |

**How to submit:** Zip the entire application folder and post it in CougarView in the **Final** drop box. The assignment drop box will close at the end of class! In case of any technical problem (computer or CougarView crash), you must notify me immediately.