# 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**
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**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.