CS 1010 : INTRODUCTION TO PROGRAMMING

Semester Hours: 3.0          Contact Hours: 3
Coordinator: Ronald Conway
Text: AN INTRODUCTION TO PROGRAMMING USING VISUAL BASIC 2012 W/DVD+ACCESS
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SPECIFIC COURSE INFORMATION

Catalog Description:
Algorithms. Programming language features: expressions, assignments, functions with parameters, conditions, loops, arrays. Several programming assignments required. Does not apply to the computer science major. Prerequisite: Two years of high school algebra or MATH 0950. Extra fee. Approved for Distance Ed.

Course type: NOT REQUIRED

SPECIFIC COURSE GOALS

• I have the ability to explain the fundamental concepts of the four control flows.
• I can utilize a wide range of the features available in Visual Studio.
• I can analyze program requirements in order to understand what type of data and processes are involved in the solution.
• I can design a modular approach to satisfy those requirements, and organize program code to implement the design.
• I can verify that the results obtained satisfy the original requirements.

LIST OF TOPICS COVERED

• Introduction to Visual Basic
  o Constants (Boolean, Integer, Long, Single, Double, Currency, Date, String, Variant)
  o Public and Private
  o Declaring variables (names, types, public/private, default values)
  o Assignment statement
- Arithmetic expressions
- MsgBox function
- InputBox function
- Logical Operators
- Comparison operators
- if...then... else... end if
- if...then...end if
- Select case statement

- Loops in Visual Basic
  - Do While condition... loop
  - Do ... loop until condition
  - For var = start To end(Step increment) ... Next var
  - For Each element In group ... next element
  - DoEvents
  - Nested loops
  - Testing for sentinel values

- Testing and debugging your Code
  - Using the Debug window
  - Stepping through a program
  - Using the Calls dialog box to trace procedure calls

- Subroutines and Functions
  - Subroutines and functions without parameters
  - Value parameters
  - Name parameters
  - Built-in procedures

- Arrays
  - Declaring one dimensional arrays
  - Assigning values to an array
  - Passing arrays to procedures
  - Sequential search
  - Sorting algorithm
• Dialog boxes
  o Built-in dialog boxes
  o Custom dialog boxes

• Algorithms
  o Sequential Search
  o Finding minimum/maximum
  o Bubble Sort
  o Binary Search (optional)
  o Selection Sort (optional)

• Visual Basic and Access databases
  o Active X controls
  o Records in database tables
  o Reports from database tables

*Note:* Five to seven Visual Basic assignments will be given during the semester.