IST 109  Introduction to Programming  3  

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<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
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<td>IST 109</td>
<td>Introduction to Programming</td>
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<tr>
<th>Class or Lecture Hours</th>
<th>Laboratory Work Hours</th>
<th>Clinical or Studio Hours</th>
<th>Practicum, Co-op, Internship</th>
<th>Course Length</th>
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<tr>
<td>2</td>
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<td>N/A</td>
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<td>15 (15 week, 10 week, etc.)</td>
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Not Applicable  

Performance on an Examination/Demonstration  
(Placement Score (if applicable); minimum CLEP score)  

Alternate Delivery Methods  
(Online, Telecourse [give title of videos])

Required Materials:  
An Introduction to Programming Using Visual Basic 2010 by David Schneider

Flash Drive

Catalog Description:  
This course is an introduction to programming structure, tools and documentation. It is adequate for potential Information System Technology majors who have little or no background in computers and programming and who need preparation for future courses in Information System Technology. Also, non-majors with an interest in Information System Technology will benefit from this course. Students will learn how to design interfaces and develop Task Object Event (TOE) chart and Object Properties and Settings chart, Hierarchy chart, Pseudocode, and flowchart. Problem solving techniques and program design using logic control structures of sequence, selection, iteration, arrays, and sequential files are emphasized in the laboratory using VB.NET

Prerequisite: Proficiency in Basic Algebra  
Corequisites: None

Last Revised: 01/21/11

Course Coordinator (name, email, phone extension):  
Assistant Professor Queen E. Okike  
okikeq@mccc.edu  
Extension 3464
Available Resources: (Identify library resources relevant to the course, including books, videos, journals, electronic databases, recommended websites.)

Learning Center Resources: (Are there tutors for the discipline? Study groups?)

Course Goals. List 5-8 overall goals for your course. Course-wide goals (or competencies) are statements that describe the specific, measurable knowledge, skills, and values that the student is expected to exhibit after completion of the course.

**The student will be able to:**
- List the components of computer system and explain how they work together to produce information
- Understand and use the programming problem-solving tools (Task Object Event table, Object Properties and Settings chart, Hierarchy chart, Pseudocode, and flowchart)
- Demonstrate the knowledge of the structures of programming (Sequence, Decision, Loop, Array, and Sequential files) using the programming tools.
- Observe and explain the implementation of programming structures using VB.NET
- m into small manageable tasks

Evaluation of Student Learning. Describe general guidelines for examinations, required work, course work, assignments, and tests. Explain how assignments evaluate student achievement of course objectives. Multiple measures (quizzes, tests, essays, projects, portfolios, practicums, etc.) are the most effective way to evaluate student learning.

FINAL GRADE

The final grade is a composite based upon:

Successful completion of Projects demonstrating the use of programming tools to break down problems into manageable tasks with complete documentation; while using programming structures (units i -iii)  

Midterm Examination on Unit i and unit ii  
Final Examination on Unit iii

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COURSE CONTENT

Unit I
Learning Objectives: The student will be able to:
- List the components of computer system and explain how they work together to produce information
- Explain the program development cycle
- Apply programming tools which includes: Hierarchy chart /Top-down chart/HIPO(Hierarchy plus Input-Process-Output)/VTOC (Visual Table of Contents)
- Develop pseudocode
- Draw flowcharts
- Chart Object Properties Settings
- Task Objects Events (TOE) chart/Procedures Actions-Pseudocode
- Invoke and Exit VB.NET and manage programs
- Understand VB.NET environment, controls, data type and variables; how they are used
- Describe sub procedures, functions and modular design

Unit II
Learning Objectives: The student will be able to:
- Explain the use of Relational and Logical Operators
- Understand Decision Structure (If Blocks and Select Case Blocks)
- Understand Repetition Structure (Do Loops and For...Next Loops)
- Process lists of data with Do Loops using Peek Method, Counters and Accumulators; Flags

Unit III
Learning Objectives: The student will be able to:
- Create and Access Arrays
- Use Arrays
- Create a Sequential File
- Add and retrieve Items from a Sequential File