VISUAL BASIC PROGRAMMING
CST 2610

Class Hours: 3.0    Credit Hours: 4.0
Laboratory Hours: 3.0    Date Revised: Fall 00

Catalog Course Description:

A study of Windows graphic interface development through the learning and hands-on application of Visual BASIC programming language. The learner will develop, design, code and test graphic sessions, images, windows, mouse selections, data usage and image movements to produce client-based working programs. Emphasis will be on code creation, sound programming practice, window control and graphic design. Development of working client-based products is essential to the completion of this course.

Entry Level Standards:

The student must have sufficient math and computer literacy background to analyze problems logically. The student should have previous programming experience and knowledge of Windows and PC usage.

Prerequisite:

CST 1540

Corequisite:

College-level math

Textbook(s) and Other Reference Materials Basic to the Course:


I. Week/Unit/Topic Basis:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction, Visual Basic Environment</td>
</tr>
<tr>
<td>2</td>
<td>Calculations, Decisions</td>
</tr>
<tr>
<td>3</td>
<td>Menus, Sub-programs</td>
</tr>
<tr>
<td>4</td>
<td>Multiple Forms</td>
</tr>
<tr>
<td>5</td>
<td>Lists, Loops, Printing</td>
</tr>
<tr>
<td>6</td>
<td>Arrays</td>
</tr>
<tr>
<td>7</td>
<td>Object Oriented Programming (OOP)</td>
</tr>
</tbody>
</table>
II. Course Objectives*:

A. Operate a window-based microcomputer having keyboard, mouse, disk drives and load, use, control, design, code, test and run programs. I, II, III, IV, IX

B. Develop skills in solving problems by using a computer. I, II, III

C. Analyze problems, then design and code Visual BASIC statements to form working graphic-based programs. I, II, III, V, VI, XV

D. Develop, code, debug and modify input/output/control/visual features. V, VI, VII

E. Apply Visual BASIC programming skills to real world applications and develop window images and controls. VI, X, VI, XII, VIII

*Roman numerals after course objectives reference goals of the Computer Science Technology program.

III. Instructional Processes*:

Students will:

1. Use Visual BASIC tools to create a well-documented application based on client input or industry research. Communication Outcome, Problem Solving and Decision Making Outcome, Technological Literacy Outcome, Transitional Strategy

2. Use professionally accepted methods and materials in completion of applications. Technological Literacy Outcome, Transitional Strategy, Active Learning Strategy, Personal Development Outcome

3. Use graphical interface and animation, and create a link from Visual BASIC project to a web site. Technological Literacy Outcome, Information Literacy Outcome, Numerical Literacy Outcome, Active Learning Strategy, Problem Solving and Decision Making Outcome

4. Use the Internet as a medium for obtaining documentation and instruction, and for submitting assignments. Communication Outcome, Technological Literacy Outcome, Information Literacy Outcome, Transitional Strategy

5. Practice elements of the work ethic such as punctuality, professionalism, dependability,
cooperation, and contribution. *Personal Development Outcome*

*Strategies and outcomes listed after instructional processes reference Pellissippi State’s goals for strengthening general education knowledge and skills, connecting coursework to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.

**IV. Expectations for Student Performance*: 

Upon successful completion of this course, the student should be able to:

1. Demonstrate the ability to work alone, communicate well and work within a group as assigned.  B, C, D, E

2. Demonstrate the proper use of the editor, window environment and program operation procedures.  A, E

3. Identify and properly use the keyboard, mouse and function key set.  A, B

4. SAVE and Back-Up all programs developed in the course on their own disk and electronically submit final programs to the instructor as required to meet timelines established.  A, B, E

5. Demonstrate working program commands, icons, operators, arguments, variables and controls.  B, C, D, E

6. Demonstrate correct program syntax and design.  B, C, D, E

7. Demonstrate use of program statements to match logic requirements.  B, C, D, E

8. Demonstrate conversion of real-world math and data constructs into program format, statements, functions and/or modules.  B, C, D, E

9. Demonstrate applications of the skills learned to develop a software product and internal or external software documentation.  C, D, E

10. Demonstrate a working knowledge of the Visual Basic program language terms, statements, properties, methods, events, controls, forms and functions.  B, C, D, E

11. Debug/refine software and meet all time (turn-in) requirements.  C, D, E

12. Develop windows which are visually correct and which function according to specifications.  B

13. Modify existing code to meet client requests.  B, C, D, E

14. Create fully functioning window driven client-based problem solving programs complete with documentation per instructor specifications.  B, C, D, E

*Letters after performance expectations reference the course objectives listed above.

**V. Evaluation:**

A. Testing Procedures:

There will be three tests, each 100 points.  No makeup tests will be given.

B. Laboratory Expectations:
There will be several projects for a total of 100 points. Each project may consist of several labs. To submit projects, give the instructor your work disk. More than one disk is required. There will be two points penalty per day for late lab assignments.

C. Field Work:

N/A

D. Other Evaluation Methods:

This information, if applicable, will be provided by the instructor in full detail during the first week of class via syllabus supplement.

E. Grading Scale:

<table>
<thead>
<tr>
<th></th>
<th>Points</th>
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<tbody>
<tr>
<td>Tests</td>
<td>300</td>
</tr>
<tr>
<td>Labs</td>
<td>100</td>
</tr>
<tr>
<td>TOTAL</td>
<td>400</td>
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</table>

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93 - 100</td>
</tr>
<tr>
<td>B+</td>
<td>88 - 92</td>
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<tr>
<td>B</td>
<td>82 - 87</td>
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<tr>
<td>C+</td>
<td>77 - 91</td>
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<tr>
<td>C</td>
<td>70 - 76</td>
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<tr>
<td>D</td>
<td>60 - 69</td>
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<tr>
<td>F</td>
<td>below 60</td>
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VI. Policies:

A. Attendance Policy:

Pellissippi State Technical Community College expects students to attend all scheduled instructional activities. As a minimum, students in all courses must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course.

B. Academic Dishonesty:

Cheating of any kind will be grounds for failure. All students will adhere to school and lab rules at all times. Students are expected to create their own working programs independent of others except when directed to work in teams.