

# 2010/2011 Visual Basic Programming I

PTP307 - 18 weeks

## DoDEA Course Description and Competencies

### About the Program

Visual Basic Programming I prepares students for careers in the IT industry. The course sequence focuses on duties and tasks performed by professionals in computer programming as well as pre-employment and employment skills.

**Major Concepts/Content:** Programming in Visual BASIC I is a one-semester course that will use the Visual BASIC Language. The emphasis of this course is to write computer programs to solve complex problems. . Students learn to write programs using the Microsoft Visual Basic.net programming language. Programs include decision and looping structures, graphics, sound, animation, and Microsoft Access databases.

**Major Instructional Activities:** Students will analyze a problem, design a solution, write the program needed to solve the problem, test the program and make the necessary corrections in the program. Activities will include hands-on programming, group and individual assignments and special projects. Students will use electronic learning services to access additional resources.

**Major Evaluative Techniques:** Assessment will be accomplished by the successful completion of assignments. Assignments will be evaluated for structure, the correct use of programming statements, documentation, conciseness, and appropriateness of the solution to the problem. Success may be demonstrated by written tests, oral tests, class work, projects, or other means deemed appropriate by the instructor.

**Essential Software:** The focus of this course will be the use of Visual Basic.net to produce a variety of programs.

The table below is a competency list for the Visual Basic Programming I course. The competencies are considered essential and are required of all students.

PTP307 18 weeks	Visual Basic Programming I TASKS/COMPETENCIES
<b>Implementing Dude's CTE Course Requirements</b>	
• 001	Demonstrate Dude's Workplace Readiness Skills in course activities.
• 002	Identify issues related to this field of study that affect the environment and impact local and global communities.
• 003	Identify Internet safety issues and procedures for complying with acceptable use standards.
<b>Exploring Programming Concepts</b>	
• 004	Outline the development of computers and current industry trends in the programming field.
• 005	Describe the development of programming languages and applications.
• 006	Describe the functions of computer hardware, software, and computer theory.
• 007	Compare computer operating systems.
• 008	Describe the software development life cycle (SDLC).
• 009	Identify the Visual Basic programming development environment.

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<b>Using Algorithmic Procedures</b>	
• 010	Analyze a problem statement.
• 011	Create a plan to solve a problem.
• 012	Develop the best solution to the problem.
<b>Implementing Programming Procedures</b>	
• 013	Design a program using pseudo code and/or a flowchart.
• 014	Design an algorithm for a program.
• 015	Code a program, using a programming language.
• 016	Execute a program with sample data.
• 017	Debug a program.
• 018	Document a program.
• 019	Maintain program using SDLC.
<b>Mastering Programming Fundamentals</b>	
• 020	Create an object.
• 021	Create a graphical user interface that adheres to industry standards.
• 022	Code an application that uses arithmetic operations and built-in functions.
• 023	Code a program that uses variables and constants.
• 024	Code a program accepting user input.
• 025	Code a program that uses conditional structures.
• 026	Code a program that uses correct data types.
• 027	Code a program that uses correct prefixes.
• 028	Identify and correct syntax, semantic, and run-time errors.
• 029	Code a program that utilizes error-trapping and dialog boxes.
• 030	Create an executable file.
• 031	Code a program that uses formatted output.
<b>Using Web Technology</b>	
• 032	Locate resources and references to aid program development.
• 033	Evaluate the validity of sample code obtained from the Internet and other sources.
<b>Developing Employability Skills</b>	
• 034	Identify careers in the information technology industry.
• 035	Describe ways that computer programs can be used in business and industry.
• 037	Create or update a portfolio containing representative samples of student work.