PETERS TOWNSHIP SCHOOL DISTRICT

CORE BODY OF KNOWLEDGE

CHS COMPUTER PROGRAMMING VISUAL BASIC

GRADES 10 - 12

For each of the sections that follow, students may be required to understand, apply, analyze, evaluate or create the particular concepts being taught.

COURSE DESCRIPTION:

This course is an advanced programming course using Visual Basic. Topics include problem analysis, development of algorithms, statements, commands, debugging, loops, control structures, expressions and operators, the top-down programming concept, subroutines, arrays, nested structures and loops, logical operators, sorting algorithms, string data, character string manipulations, file access, graphics, sound, and color. *For other information on Pitt's grading, tuition, and policies and procedures, please see your teacher or visit www.as.pitt.edu/chs.

STUDY SKILLS:

- Stay current with all class work and assigned projects
- Adequately prepare for quizzes and exams through the development of study skills
- Utilize online resources to problem solve

UNIT THEMES:

1. INTRODUCTION TO VISUAL BASIC

- Explain the history of language development
- Effectively create a copyright screen incorporating an active-x control
- Demonstrate an ability to use on-line help libraries to find solutions in coding and customizing controls
- Logon to a novell intranetwork, access user's home directory, capture a network printer, browse for resources, and share messages
- Explain classes of ms development
- Use online help through www.microsoft.com and use msdn cd library

2. DESIGNING APPLICATIONS IN VISUAL BASIC

- Demonstrate problem solving using a procedure-oriented approach and an object-oriented approach
- Effectively plan an ooed application in visual basic 6.0

- Build the user interface following gui design regulations
- Code, text, debug and document an application

3. DESIGNING APPLICATIONS USING VARIABLES AND CONSTANTS

- Demonstrate an ability to properly use data types to create variables and constants
- Efficiently (using the least amount of memory) store information using local and form-level variables
- Improve the appearance of an application by loading and unloading forms, adding a module to a project, and using a timer control
- Use timers

4. DESIGNING APPLICATIONS USING THE SELECTION STRUCTURE

- Demonstrate an ability to properly identify and use selection structure
- Include visual basic Controls for improved GUI design of Windows applications

5. REPETITION STRUCTURE

- Demonstrate an ability to create FOR NEXT, DO WHILE, and DO UNTIL repetition structures
- Create a control array, set the enabled property, and code a click and GotFocus events

6. SEQUENTIAL ACCESS FILES AND DATA

- Demonstrate an ability to create list box controls with sorted items
- Design menus to work with sequential access files
- Manipulate strings using the left, right, and mid functions

7. DIALOG BOXES AND ERROR TRAPPING

- Demonstrate an ability to create dialog boxes with filters
- Design dialog boxes to work with error trapping in sequential access files
- Manipulate strings using the input and lof function

8. RANDOM ACCESS FILES

- Demonstrate an ability to create user defined data types for random access files
- Utilize a control array and pass information to a subprocedure
- Clear a record from a random access file

9. VARIABLE ARRAYS

- Demonstrate an ability to create one and two dimensional arrays
- Store a record in an array and manipulate the data
- Add and remove records from an array and remove records from a combo box

10. DATABASE ACCESS, DDE, AND OLE

- Design a database using Visual
- Data Manager
- Use the Data Control
- Add and remove records from an array and remove records from a combo box

11. ACTIVE X, DRAG AND DROP, AND CRYSTAL REPORTS

- Create an Active X control for use as cross platform language independent controls

MATERIALS:

Textbook: Visual Basic by Shelly Cashman from Course Technology (Cengage Learning)

Revised September 2014