

CURRICULUM MAP COMPUTER PROGRAMMING

Weeks 1-3	Weeks 4 -6	Weeks 7-9	Weeks 10-12	Weeks 13-15	Weeks 16-18
<ul style="list-style-type: none"> • Develop an awareness of the hierarchy of programming languages (machine language, assembly language, high level languages). • Develop an awareness of language translation (interpreters vs. compilers) • Learn to create BASIC programs. • Develop a simple vocabulary in the BASIC language including: PRINT, READ, DATA, END, COLOR, IF, THEN. • Learn to create and use variables of both string and numeric data types. • Learn about the ASCII character code. • Learn to use flow-control labels in conjunction with the GOTO command. • Develop skill in creating effective and attractive formatting. • Learn to understand error messages. <p>Credit – 1.0 Prerequisites – Introduction to Computers Double-blocked One Semester</p>	<ul style="list-style-type: none"> • Develop skill in finding and fixing coding and logic errors. • Develop awareness of the importance of using descriptive identifiers and other forms of internal documentation. • Develop skill in creating interactive programs using the INPUT command. • Develop skill in creating effective error traps and in proactively "idiot-proofing" programs. • Learn advanced methods for creating loops in programs: <ul style="list-style-type: none"> • FOR..NEXT • WHILE..WEND • DO..UNTIL • DO..WHILE • Develop an understanding of problems resulting in infinite loops • Develop skill in file processing with sequential data files. • Develop familiarity in working with array data types. 	<ul style="list-style-type: none"> • Develop skill in performing counting and totaling functions. • Develop skill in applying standard mathematical formulas to real-world programming problems. • Develop skill in manipulating string data. • Develop an awareness of the use of computers in cryptography • Develop an awareness of legal and social responsibilities of programmers. • Develop skill in creating simple graphic images. • Learn to create and change graphics based on external data and/or input. • Develop an understanding of pseudocode and other program development tools. 	<ul style="list-style-type: none"> • Develop an ability to create windows programs using Visual BASIC. • Learn about object-oriented programming • Develop skill in designing windows-based forms. • Develop skills in the use of toolbox objects. • Develop skills in the use of SetFocus and Tabindex and visibility properties • Develop the use of command buttons, textboxes, labels and timers. • Develop familiarity with advanced data types. • Learn to use standard algorithms such as searching and sorting • Learn to analyze program efficiency and make appropriate enhancements. 	<ul style="list-style-type: none"> • Develop the use of graphics in windows programming. • Develop an awareness of multithreaded programming concepts. • Develop skill in Debugging. • Develop skills in the use of menus and hotkeys. • Develop skills in the use of code modules. • Develop skills in the use of multiple forms. • Develop familiarity with C++ and Java languages. • Develop familiarity with VBscript and javascript languages. • Learn to create stand-alone programs. 	<ul style="list-style-type: none"> • Enhance programming skills by completing programs of advanced complexity. • Develop program development skills by collaborating with other students to develop software.