Computer Programming (10-assignment)

This is an integrated instructional module designed specifically to operate within a Modular Program environment. It is ideal for use with our Scantek Technology or IT2020 Information Technology programs. The module includes a 10-assignment exploratory curriculum that is split into two parts. Each part includes a pre-test and post test. The module includes software and curriculum materials sufficient to provide a complete learning experience.

The curriculum incorporates continuous assessment through questions. When used in conjunction with a ClassAct networked management system, this provides instant feedback of student performance. The assessments begin with a comprehensive pre-test. This quiz includes questions for each subsequent assignment, together with questions that will specifically test math and reading ability.

Every assignment starts with a series of questions that are designed to track inventory. These ensure that any missing items are located before they are needed.

Each assignment is divided into a series of tasks. Tasks introduce students to computer programming, and are accompanied by research and on-screen simulated programming tasks. Assessment questions are incorporated into each task. Some of the later assignments also include instructor-graded activities.

Exploratory Phase Topics:

- History of Information Technology
- Programming languages
- Algorithms
- Pseudo code
- Flowcharts
- Data types
- Logical data
- Modules
- Procedures
- Functions
- Operators
- Decision logic
- Case logic
- Loops
- Nested loops
- Arrays
- Software Systems Design Cycle
- Object oriented programming

Exploratory Phase Activities:

- Identifying individuals and milestones in the development of information technology.
- Exploring a range of languages used in software development.
- Designing program logic using pseudo code and flowcharts.
- Identifying types of data used in programming.
- Exploring the use of modules, procedures, functions and operators.
- Investigating decision and case logic control structures.
- Examining the application of REPEAT, WHILE, FOR NEXT, and nested loops.
- Investigating the use of one and two-dimensional arrays.
- Identifying the key stages of the Software Systems Design Cycle.
- Investigating the concept of objects, class, and inheritance in object oriented programming.

Each assignment is designed around a list of performance objectives. These lists include academic, technical and occupational objectives. The assignments are written in such a way as to enable a student to attain the performance objectives, with the assessment questions linked to these in order to provide a measure of true competency.

The performance objectives are used by the ClassAct management system to generate a comprehensive portfolio of student competency reports. Default reports supplied with this module include:

- Entry report
- Technical/Occupational Exit report
- Basic Skills report based upon the federal SCAN's report.

The items supplied with this instructional module include:

- 10-assignment On-Screen Student Assignment Guide CD
- 10-assignment Student Worksheets
- 10-assignment Instructor's Guide

Additional items required:

- Computer

Order as:

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	No.	Average time
Assignments	10	45 minutes
Extension Activities	2	60 minutes
	Total	9½ hours