

Computer Applications (40-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. It includes a 10-assignment exploratory curriculum and a further 30-assignment in-depth curriculum. The exploratory curriculum and the in-depth curriculum are each split into two parts. Each part includes a pre-test and post test. Where appropriate, the module includes hardware, 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 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. Hands-on tasks form the core of the student work. Where appropriate, these are accompanied by research tasks based upon illustrated textbooks and on-screen applications. Assessment questions are incorporated into each task.

Typical 10-assignment topic areas include:

- Main computer components
- Creating and storing text documents
- Input devices
- Output devices
- Display systems
- Programming
- Hardware
- Computer networking
- Computer control systems
- Multimedia

Typical 10-assignment activities include:

- Identify the main parts of a computer system.
- Create a text document and store it on a floppy disk.
- Investigate various techniques for entering information into a computer.
- Investigate various techniques for extracting information from a computer.
- Investigate the workings of the computer display system.
- Construct a computer program and a word-processed document.
- Identify the components inside a computer system.
- Identify the various ways that computers can communicate with each other.
- Investigate various techniques for controlling hardware using a computer.
- Extract multimedia information using a computer-based encyclopedia.

Typical 30-assignment topic areas include:

- Introduction to computer algorithms
- Flowcharts
- Flowcharts to computer program
- Text editor
- Graphics editor
- Program editor
- Computer programming commands
- Security control systems
- Intruder detection
- Graphics and multimedia
- Computer security and passwords
- Database
- Sensors
- Digital sound
- Binary code
- Truth tables
- Feedback control system
- Time controlled computer programs
- Applications of computer control systems
- Traffic control systems
- Intruder tracking system research and design
- Fire detection system research and design
- Research and design of an intruder monitoring system

Typical 30-assignment activities include:

- Connect a computer to an Input/Output control board.
- Describe the meaning of the term "Algorithm".
- Interpret the meaning of flowcharts.
- Simulate events using the HiTech Home.
- Edit pictures using a computer graphics package.
- Construct diagrams using clip art.
- Construct diagrams using graphics tools.
- Describe Interactivity and Edutainment.
- Describe the functions of computer programming commands.
- Convert a flowchart into a computer program.
- Use a word processor as a computer program-editing tool.
- Recognize types of digital information.
- Recognize types of computer crime.
- Extract information from a computerized database.
- Connect an analog sensor device to a computer.
- Describe the software production life cycle.
- Describe computerized sound and the workings of a microphone.
- Research a computer application to improve home security.
- Design a computer application to improve home security.
- Write a home security computer program.
- Use computer numbering systems.
- Draw truth tables for computer application programs.
- Describe methods of detecting fire.

Computer Applications (40-assignment)

Typical 30-assignment activities include (continued):

- Write a fire detection and warning program.
- Recognize applications of computer control and connect an analog output device to a computer.
- Extract information from a computerized encyclopedia using keywords.
- Write a feedback control program to control air conditioning.
- Write a time controlled computer program.
- Write a sequential control program.
- Carry out a problem solving exercise.

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 Assignment Guide
- 10-assignment Student Workbook
- 10-assignment Instructor's Guide
- 30-assignment Student Assignment Guide
- 30-assignment Student Workbook
- 30-assignment Instructor's Guide
- Computer Aided Instruction software
- Book: 'Computer Dictionary'
- Book: 'How Computers Work'
- Computer Applications kit
- Light Sensor
- Microsoft Encarta Encyclopedia software
- Encarta Reference Sheet
- Computer Applications module

Additional items required:

- Computer
- Access to a printer
- 1.44MB formatted High Density floppy disk (pack of 10)

Module Facts

For Technology Program, order as:
ST220/40 Computer Applications

For IT Program, order as:
PSD2C Computer Applications

	No.	Average time
Assignments	40	45 minutes
Extension Activities	5	45 minutes
Total		33¾ hours



LJ Technical Systems
Web site: www.ljgroup.com