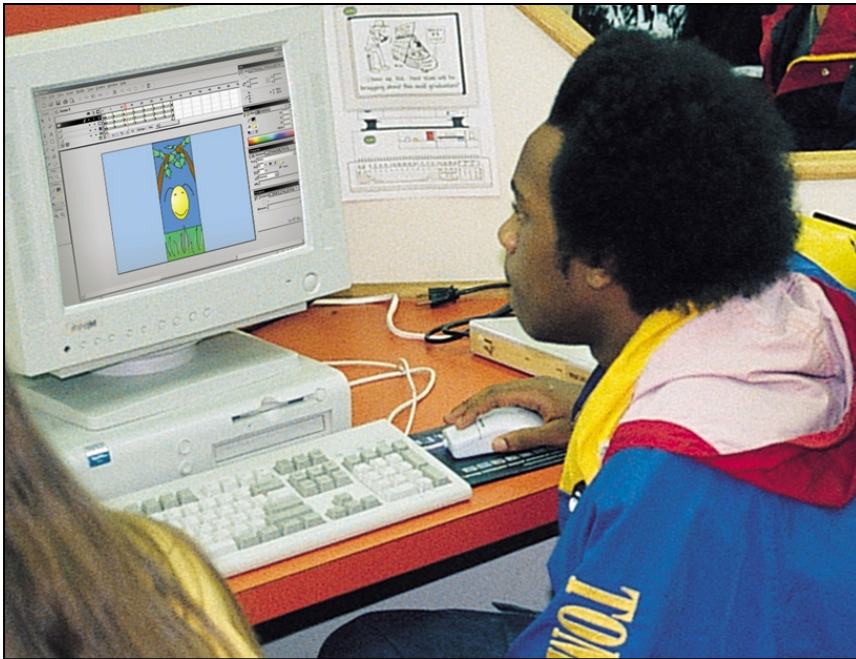# Graphics and Animation (40-assignment)

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:
- Simple shape creation
- Backgrounds and foregrounds
- Motion tweening
- Shape tweening
- Layer management
- Light source and object shadow
- Adding sound
- Deformation
- Follow through
- Animated character design
- History of animation methods

Typical 10-assignment activities include:
- Shape creation – create shapes in order to get accustomed to the Flash interface.
- Moving a square – motion tween a square from one side of the screen to another.
- Frames
- Layers – load house scene from a previous assignment and place another object into the scene on a different layer.
- Shape changing – create a circle and change the circle into a square using shape tweening.
- Facial expressions – use shape tweening on a face to change a smile to a frown.
- Using layers – create a simple scene using several layers.
- Animating a scene – animate several objects on different layers at the same time.
- Adding sound – add/synchronize a sound to horn animation.
- Deformation – use deformation explorer to discover the effect of gravity and impact on the form of objects.
- Create a ball character (a body and a face). Convert to symbol.
- Follow through – use the deformation explorer and discover follow through and when/why it occurs.

Typical 10-assignment activities include (continued):
- Scene build up – add a background and foreground to the animation.
- Adding a shadow – add a shadow to the animation.

Typical 30-assignment topic areas include:
- 'Onion skin' technique
- Multiple object synchronization
- Backgrounds and foregrounds
- Scene composition
- Scene linking
- Motion tweening
- Shape tweening
- Motion guides
- Masking
- Pivot points
- Motion blur
- Frame rate
- Password protection
- Sound effects
- Character animation
- Character facial expressions
- One and two point perspective
- Technical drawing – floor plans
- Storyboards
- Interactive game design
- Interactive musical instrument design
- Interactive solar system animation design
- Interactive web design
- Animated logo design
- Web site design

Typical 30-assignment activities include:
- Animate a shape getting smaller while keeping track of the movement of the shape.
- Create an animation of a shape getting smaller while using the Onion Skin tool of the animation editor to keep track of the movement of the shape.
- Create a picture of a trampoline and an object to bounce on the trampoline.
- Synchronize the movement of the object and the canvas of the trampoline.
- Use motion and shape tweening to animate the object bouncing on the trampoline.
- Create a grid to separate a picture of a map.
- Draw a picture of an island.
- Use the grid to separate the island into small pieces and then create buttons on the grid indicating where the treasure is buried on the island.
- Create a simple animation and add a sound effect to it.
- Extend the simple animation and add another sound effect so it contains multiple sound effects.
- Create an interactive musical instrument and add sound effects so it can be played when the animation is playing.
- Practice applying sound effects to animated buttons.

Graphics and Animation (40-assignment)

Typical 30-assignment activities include (continued):

- Use a simple motion guide to animate an object moving in a circular fashion.
- Practice using motion guides to animate objects moving in complex ways.
- Create the background for a solar system animation.
- Create the planets for the solar system animation and record information on the planets.
- Animate the first planet of the solar system orbiting the sun.
- Animate the remaining two planets orbiting the sun.
- Experiment with animation to see what effect the changing of certain parameters has on the appearance of the animation.
- Use a layer mask to create an animation of a name, revealed by a passing object.
- Use CAI to discover the use of pivot points in animation.
- Create a stick figure and convert each part of the character into graphic symbols.
- Edit the position of the pivot points in the limbs of the stick figure.
- Animate the stick figure walking, using the pivot points.
- Choose the theme of an animated cartoon.
- Produce sketches of a cartoon character and then transfer the character into the animation editor.
- Practice animating the character using edited pivot points.
- Use CAI to discover what storyboards and design briefs are.
- Use sample completed storyboards to create a simple animation.
- Use one vanishing point to create a three dimensional image of a building using one point perspective techniques.
- Practice using one point perspective techniques to create three dimensional images.
- Use two vanishing points to create a three dimensional image of a building.
- Practice using two point perspective techniques to create three dimensional images.
- Use CAI to discover some of the different shot types used in creating animations.
- Create the first scene of a three scene animation using a long shot type.
- Use a mid shot type to create the second scene of a three scene animation.
- Use a close up shot type to create the third and final scene of a three scene animation.
- Create a simple animation of a shape moving. Experiment with the frame rate of the animation to see how it affects the movement of the shape.
- Create a design brief for a news report animation.

Typical 30-assignment activities include (continued):

- Use CAI to discover the use of technical drawing when planning the creation of different types of objects, including buildings.
- Take on the role of an architect and create a floor plan of a room.
- Arrange the room contents inside the room to complete the floor plan.
- Use action scripting to create a button to check if the password in the password text box is correct or incorrect.
- Create a school logo to use on an interactive Web site animation.
- Use CAI to experiment with an interactive example of a Web site.
- Design a User Interface for an interactive animation of a web site.

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
- Macromedia Flash Software

Additional items required:

- Computer

Module Facts

For Technology Program, order as:
ST300/40 Graphics and Animation

For IT Program, order as:
IM4C Graphics and Animation

	No.	Average time
Assignments	40	45 minutes
Extension Activities	4	45 minutes
Total		33 hours

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