

Course Outline

COURSE: DM 109 **DIVISION:** 50 **ALSO LISTED AS:** CSIS 109

TERM EFFECTIVE: Fall 2011 **Inactive Course**

SHORT TITLE: INT ANIM & AUTHOR

LONG TITLE: Interactive Animation and Authoring: Director

<u>Units</u>	<u>Number of Weeks</u>	<u>Type</u>	<u>Contact Hours/Week</u>	<u>Total Contact Hours</u>
3	18	Lecture:	2	36
		Lab:	3	54
		Other:	0	0
		Total:	5	90

COURSE DESCRIPTION:

Use of animation/interactive multimedia development software (Macromedia Director) and techniques for designing business presentations, interactive multimedia, educational materials, interactive web animation, computer games, and video animation. The study of interactivity and integration of multiple types of art content such as 2D and 3D animation, digital video, graphics, and sound. Applicable to the design and production of CD-ROMs and web sites. This course has the option of a letter grade or pass/no pass. Also listed as CSIS 109. **ADVISORY:** CSIS 1/1L Computer Literacy (& Lab) or CSIS 2/2L Computers in Business (& Lab); CSIS 77 Intro. to Digital Media and its Tools.

PREREQUISITES:

COREQUISITES:

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES

- L - Standard Letter Grade
- P - Pass/No Pass

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

- 02 - Lecture and/or discussion
- 03 - Lecture/Laboratory
- 04 - Laboratory/Studio/Activity

STUDENT LEARNING OUTCOMES:

1. The students will understand and produce interactive multimedia and 2D animation.
2. They will learn to analyze design problems and apply the concepts of tweening, timelines, media integration, painting for animation, and the scripting language, Lingo.
3. Two major interactive projects, one produced for the world wide web and one produced for CD ROM will force the student to formulate a strategy for production, to critically analyze potential problems, and to demonstrate their problem solving and synthesis skills.

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS

Inactive Course: 04/25/2011

WEEK HOURS CONTENT:

1 2 Lecture: The history of animation. Computer animation vs. animation by hand (cellular animation). What constitutes multimedia or the integration of different types of media in an interactive format? Survey of software tools, needed hardware, and their capabilities. Introduction to popular software for making interactive multimedia. Concept of frames, key frames, sprites, and cast members.

HOMEWORK: Read chapters on history of animation. Write a short paper (1 page) on what is different about interactivity in media. Review examples and be prepared to discuss it in front of the class.

3 LAB ASSIGNMENT: Go to lab, log in, and get acquainted. Check out a CD ROM, run it, and take notes as to user interface, design, and aesthetics of implementation. Write a critique of the CD.

2 2 Lecture: Basics of Director: the toolbar, control panel, stage. Use of the cast, text, paint, and score windows. Creating a new movie, adding cast members, and placing and aligning sprites on the stage and in the score. Concept of sprite sequences. Playing a simple movie. Adding text cast members, naming cast members, and using sprite inspector.

HOMEWORK: Read chapters on Director tool bar, windows, and inspectors. Study the importance of key frames.

3 LAB ASSIGNMENT: (chapter 1,2)
Create a simple animated title page and text bullet list for a business presentation.

3 2 Lecture: Importing media elements, setting stage color and basic tempo, animating graphics, and then reversing. Designing transitions from scene to scene. Tricks using exchange cast members and setting registration points. Adding sounds and digital video.

HOMEWORK: Read chapters on reversing animations,

transitions and adding media elements such as sound and video.

3 LAB ASSIGNMENT: (3,4)

Construct a multimedia travelogue (Taj Mahal project) incorporating sounds, transitions and movies to the animation.

4 2 Lecture: Designing interactivity and building a menu screen. The importance of storyboarding and drawing flow charts for interactive media. Writing simple Lingo scripts and adding markers for navigation. Creating a projector for playing the file in any computer. Setting key frames, real-time recording, and use of circular paths for complex animations. Setting the movie properties.

HOMEWORK: Read chapters on complex nonlinear navigation and building a basic menu screen. Study and create a flow chart for an existing interactive multimedia CD ROM. Conceive a little interactive multimedia project and construct a storyboard for it.

3 LAB ASSIGNMENT: (5) Add nonlinear navigation to the Taj Majal presentation, set up the movie properties and create a projector. Write some simple Lingo scripts with commands like go to frame and stop.

5 2 Lecture: Entertaining animation design using circular paths and real time recording techniques. The concept and use of key frames, layers, and exchanging cast member. Copying and pasting sprites. Using background music to add excitement to an animation. The use of layers for complex visual effects. Design of continuous sound tracks. Techniques for applying ink effects, restricting animation movement, and setting key positions.

HOMEWORK: Read chapter on use of key frames, layers, and creating animation paths and real-time recording. Read about manipulating sprites in the score, adding sound tracks, and the use of layers for visual effects. Read the section on applying ink effects, restricting movement.

3 LAB ASSIGNMENT: (6,7) Work on animation project, which demonstrates complex earth movement. Do real-time recording to create complex animation paths. Add a continuous sound track. Start project on passing files from folder to folder, which demonstrates the use of layers, key frame, and sprite manipulation in the score.

6 2 Lecture: The concepts of film loops and their use for animal-type animations. Using and creating buttons for interactivity. How to use the behavior inspector and Director's built-in behaviors. Using behaviors to create

animations of two identical sprites. Discussion of character animation and their role in games, movies, cartoons, and television.

HOMEWORK: Read the chapters on film loops. Research Muybridge photography on the Internet. Study the concept of behaviors and how it differs from straight programming. Study the list of built-in behaviors and how they can be used for interactivity and in the creation of complex animations.

3 LAB ASSIGNMENT: (8,9) Add interactivity to the previous lab assignment (moving items from folder to folder) by creating buttons with behaviors. Construct an animated character. Use behaviors rather than the score to control animation.

7 2 Lecture: Techniques for changing frame rates, bounding area of sprites, and cursors. Discussion on interface design and the importance of and techniques for providing feedback to the user. Concept of alpha channels in Director and in other programs such as Adobe Photoshop and Premiere. Creating special effects such as a clear car window by alpha channel masking.

HOMEWORK: Read about what constitutes a sprite's boundaries and the attributes of cursors. Read section on techniques for changing frame rates. Read about alpha channels and their use in imaging and animation masking. Read paper about the importance of user centered design. Explore the internet for a user interface that attracts your attention and be able to discuss it critically in the next class.

LAB ASSIGNMENT: (10,11) Construct a sprite that changes with location. Construct an animated cursor with changing colors. Construct a cursor that changes with user input. Add to the Taj Mahal, text with blend, alpha channel, and layer effects.

8 2 Lecture: What a cast member and sprite properties are useful. Setting those properties including a sprite's location and size. Using the grid and the snap-to function. the concept of index color and color palettes. Changing the color bit depth of sprites to conserve memory space. The use of markers to simplify interactive animation development. Adding scripts to sprite behaviors. Saving frame pictures for reuse later in a project.

HOMEWORK: Read chapter on sprite properties and how to set them. Read chapter and handouts on index color and color palettes. Read chapter on the use of markers in complex navigation.

3 LAB ASSIGNMENT: (12,13) Construct the menu and title

page for an interactive art gallery. Use markers, grids, and sprite properties to help the development process. Change the color depth of sprites to conserve memory space. Add to the interactivity of the art gallery by creating destination scenes, which display works. Provide buttons, which make it easy to navigate from work to work.

9 2 Lecture: More index color. Color blends, use and design of gradient colors, and transparent backgrounds.

Shockwave movies for the web. Design of interactive web movies. Commercial ad design.

HOMEWORK: Read the chapter on index color and its control in Director. Read about shocking Director movies so that they will play on the World Wide Web. Read handout about the new designs for commercial ads that attract attention and potential sales. Study for midterm.

LAB ASSIGNMENT: (14,15) Finish the multimedia gallery adding color cycling special effects. Add sprite-blend at the end to create a fade out effect. Start shockwave projects by preparing your browser. Download the shockwave plug-in. Shock an existing movie, embed in an HTML web page, and prepare it for Internet streaming.

10 2 Lecture: Creating and testing lingo scripts. Scripts vs. behaviors. Using the message window to follow script actions. The concept of events, handlers, and hierarchy.

Techniques for passing parameters and returning values. Midterm exam.

HOMEWORK: Read chapters on writing Lingo scripts, simple commands, and difference between scripts and behaviors. Read about the concepts of object-oriented programming. Hierarchy, events, messages, and handlers.

3 LAB ASSIGNMENT: (16,17) Add a button to an existing project and write a script to beep when the button is clicked. Test the script using the message window. Examine the various Lingo elements in the process. Create another script that will bring up an alert box. Run an existing movie using the message watcher to analyze the working of events, messages and handlers. Modify a script to pass and return values. Analyze the result for correctness.

11 2 Lecture: The use of Lingo and buttons for navigation to markers and external movies. The importance of labeling frames. Design concepts and techniques for advanced navigation and user feedback. Use of multiple sprite scripts and sound.

HOMEWORK: Read chapter on user interface design the use of buttons for navigation. Read about adding more than one script. Construct a flow chart for a complex

nonlinear navigation and bring to next class.

3 LAB ASSIGNMENT: (18,19) Create or use a 3-button menu screen movie with the associated sections. Add markers with labels at each section. Write scripts for the buttons on the main page that makes the movie jump to each section. Add back buttons to each section page and a button that will branch to another movie. Add animation and sound that will enhance the feedback to the user. Analyze the flow, and then write a script for relative branching to optimize the movie design.

12 2 Lecture: Digital video: setting cue points, synchronizing with animation via the tempo channel or Lingo, and performing transitions. The exchange of timing information. Game development concepts: use of Lingo to control sprite actions such as adding sprites, setting location. Use of if-then statements to limit sprite movement. The technique of swapping cast members. HOMEWORK: Read about digital video: what it is, compression, and limitations. Read about adding it to Director movies and synchronization to stage animations. Read the chapter about rollover buttons and controlling sprite movement via buttons and Lingo commands. Conceive and rough out a description for a final project.

3 LAB ASSIGNMENT: (20,21) Use the Star Trek movie. Insert a digital video media element. Add text that animates in step with the video using cue points and Lingo. Add a transition to fade-in the video. Create a game similar to the Iron Helix. Add rollover buttons and use first the score then Lingo to arm motion.

13 2 Lecture: The art of scripting. Using local and global variables, case statements, parameters, and symbols. Using Lingo to play sounds. Adding control via the keyboard. Using key codes with Lingo. HOMEWORK: Read chapter on the use of advanced Lingo commands. Read chapter on keyboard control of screen actions and playing sounds via Lingo commands. Make an asset list for final project.

3 LAB ASSIGNMENT: (22,23) Use case statements, parameter, and symbols to optimize the scripts in the Iron Helix. Using Lingo puppet a sound effect. Construct a game like etch-a-sketch using advanced Lingo, key codes and trails.

14 2 Lecture: Concepts of lists and strings and their use in the design of complex navigation. The benefits of using external casts. HOMEWORK: Read chapter about lists and strings and associated Lingo commands for their manipulation. Read

about the benefits of using external casts. Storyboard and flowchart the final project.

3 LAB ASSIGNMENT: Build an electronic catalog. Use an external cast to store the items. Start collection of assets for final project.

15 2 Lecture: The concepts and use of databases and fields. Creating property lists. Debugging using the message and variable watcher and the debugger itself. Expressions and chunk expressions.

HOMEWORK: Read chapter about databases and fields in Director. Read section on the creation of property lists. Read chapter about using the debugger to debug scripts written in Lingo.

3 LAB ASSIGNMENT: Design a photo notebook. Use property lists to act like a database for storage of directions of the photo's points of view and the user's choice. Debug the scripts using the debugger to help analyze the problem and synthesize a solution. Create a handler to access values of the property list and update the stage to a new view. Add a sound track and use puppetsound to control it. Work on final project.

16 2 Lecture: Director, Lingo and the Web. Launching a browser, retrieving Internet data, displaying information and status messages. More about shockwave movies on the net.

HOMEWORK: Read chapter on using Director in association with the web. Read the handout on the concept and design of cyber CDs and DVDs.

3 LAB ASSIGNMENT: (27) Design a movie that launches a web browser and navigates to a specific web page. Retrieve a text file from the web and display it on the screen

COURSE OBJECTIVES:

Week 1

Students will be able to discuss what constitutes interactive animation and media. They will be able to specify the software tools involved and their hardware requirements. They will be able to discuss the roles frames, sprites, and cast members (i.e., the core of Macromedia Director) play in interactive animation design.

Week 2

Students demonstrate the basics of animation using Macromedia Director. They will be able to use Director components such as the score, cast window, painting, and the inspectors. Explain concept of and be able to use key frames while doing an animation.

Week 3

Student will be able to setup an animation with transitions, move graphics on the stage, use cast members effectively, and incorporate sounds and video. They will be able to discuss the

importance of using multimedia to communicate a story in a linear format.

Week 4

Students will be able to storyboard and flow chart nonlinear animations and interactive multimedia. They will be able to write simple Lingo scripts to control movement from frame to frame or frame to markers. They will be able to demonstrate how to make a movie that is playable on any desktop computer.

Week 5

Students will be able to construct an entertaining earth movement circular animation using real-time recording and path editing techniques. Students will be able to design and add background sound tracks. They can demonstrate the use of ink effects and layer manipulation to heighten the visuals in an animation. They will be able to analyze an existing animation and critically assess which techniques to use for certain desired visual effects.

Week 6

Student will be able to discuss the importance of sequence photography in the analysis of animated behavior and especially the historical work of Muybridge. Will be able to analyze complex movement and use proper behaviors to design analogous sprite movement on stage. The students will be able to discuss the difference between programming and the use of behaviors. They will be able to analyze complex movement and apply the correct behaviors to create specific effects.

Week 7

Students will be able to use the cursor attributes to add relevant user feedback to interactive multimedia. They will be able to critically analyze needs and be able to design user interfaces providing relevant feedback. They will be able to analyze an animation idea and to ascertain the needs for complex masking, blend effects, and alpha channel effects.

Week 8

Students will be able to streamline the development of interactive media by using markers, grid alignment, and setting properties. They will be able to change the color depth of a sprite either for a special effect or to lower memory requirements of a project. They will be able to construct custom color palettes and be able to point to a particular indexed color. They can demonstrate interactive design principals by creating an art gallery, walk-through, multimedia project.

Week 9

Students will be able to use color blends, gradient, colors and transparent backgrounds for effective designs. They will be able to design small movies that will play in browsers equipped with a shockwave plug-in. They will be able to make an interactive ad, which is very popular on the web.

Week 10

Students will be able to write scripts for custom behaviors. They will be able to analyze script activity using the message window. They will be able to explain the concepts of events, handlers, and hierarchy in relation to their importance in script design. They will be able to write advanced scripts that pass parameters and return values.

Week 11

Students will write button scripts for navigation to markers and jumping to external movies. They will be able to label frames in the process of effective design. They can design good user interfaces that incorporate feedback.

Week 12

Students can explain digital video concepts such as digitization, compression, and frame rate. They will be able to analyze requirements for writing Lingo scripts to synchronize animation and video on the screen. They will be able to use if-then statements to limit sprite movement.

Week 13

Students will be able to analyze design requirements and use advanced Lingo commands to write scripts that will satisfy those requirements. They will be able to construct animations that will respond to keyboard input.

Week 14

Students will be able to design an electronic catalog using external casts for element storage and list for access.

Week 15

Students will be able to design a photo notebook that will respond to user input and show different views accordingly. They will be able to use the debugger to analyze problems in their scripts and synthesize solution for correction.

Week 16

Students will be able to design and write Lingo scripts that will navigate to a web page, retrieve information, and display it on the Director screen. They will be able to explain how a Director movie works in conjunction with a web browser for cyber-navigation.

Week 17

Students will be able to recount the history of Hypertext and explain Ted Nelson's theories. Students will be able to explain uses for OpenML language. They can relate their career paths to future of TV and game development.

Week 18

Students will be able to pass the class.

METHODS OF INSTRUCTION:

Lecture, computer demonstration, design examples, and hands-on project design and production.

METHODS OF EVALUATION:

The types of writing assignments required:

Written homework

Other: Project proposals, storyboards.

The problem-solving assignments required:

Homework problems

Quizzes

Exams

Other: Project:Lingo programming, design, problem solving

The types of skill demonstrations required:

Class performance

Performance exams

Other: Digital Media project production

The types of objective examinations used in the course:

Multiple choice

True/false

Completion

Other category:

None

The basis for assigning students grades in the course:

Writing assignments: 10% - 20%

Problem-solving demonstrations: 20% - 40%

Skill demonstrations: 30% - 50%

Objective examinations: 10% - 30%

Other methods of evaluation: 0% - 0%

REPRESENTATIVE TEXTBOOKS:

Phillip Gross, ^Director 8.5 Lingo Authorized^s, PeachPit Press or other appropriate college level text.

Jason Roberts and Phil Gross, ^uDirector Demystified 8.5^s, PeachPit Press.

Reading level of text: 11 Grade.

Other Materials Required to be Purchased by the Student: ZIP disk, CDR media.

ARTICULATION and CERTIFICATE INFORMATION

Associate Degree:

CSU GE:

IGETC:

CSU TRANSFER:

Transferable CSU, effective 200430

UC TRANSFER:

Not Transferable

SUPPLEMENTAL DATA:

Basic Skills: N

Classification: I

Noncredit Category: Y

Cooperative Education:
Program Status: 1 Program Applicable
Special Class Status: N
CAN:
CAN Sequence:
CSU Crosswalk Course Department: DM
CSU Crosswalk Course Number: 109
Prior to College Level: Y
Non Credit Enhanced Funding: N
Funding Agency Code: Y
In-Service: N
Occupational Course: D
Maximum Hours:
Minimum Hours:
Course Control Number: CCC000435834
Sports/Physical Education Course: N
Taxonomy of Program: 061440