



## **COURSE OUTLINE**

### **DIGITAL MEDIA ARTS**

**DMA226**  
Course Number

**Computer Animation II**  
Course Title

**3**  
Credits

**1**  
Lecture Hours

**4**  
Studio/Lab Hours

#### **COURSE DESCRIPTION**

Advanced 3-D character animation and special effects involve character animation, inverse kinematics, and article systems. Students produce a videotape portfolio of their work and develop presentation skills. Windows-based personal computers and current professional software are used.

Text (s): **Reference Division Booklist**

Prerequisites: **DMA225 with a minimum C grade**

Co-requisites: **N/A**

**Last revised: Spring 2007**

**Course coordinator: Yevgeniy Fiks, e-mail: fiksy@mccc.edu, tel. x 3543**

## **I. OBJECTIVES**

- A. To familiarize students with the menu display, commands and tools required to generate objects moving in space.
- B. To develop understanding of the relationship between programs and image.
- C. To understand the basic logic necessary to structure a computer graphic image. To develop the ability to understand model building.
- D. To develop the skill to translate the fundamentals of graphic design to computer graphics and the ability to transpose storyboard to screen design.
- E. To develop the ability to conceptualize and realize computer graphic images in sequence and in motion.

## **II. GENERAL COURSE GOALS**

- A. The students will be able to generate expressive animations and evoke meaning in narrative and non-narrative animations.
- B. Analyze moving images and to relate this analysis to programming.
- C. Comprehend the relationship between the medium and the message, and production techniques.
- D. Identify codes unique to computer graphics and in particular computer animation.
- E. Pre-visualize images moving in space.
- F. Demonstrate command of a graphics programming language and its effective use in creating moving images.
- G. Demonstrate familiarity with current methods and applications in the field.
- H. Demonstrate familiarity with important questions and concerns in the area of computer animation and simulation.
- I. Each student is to present a verbal and written critique of his/or own and others work.

## **III. EVALUATION PROCEDURES**

If a student does all the classroom and lab assignments, he will automatically earn a Grade of "C."

If the student shows a good grasp of animation concepts, that student will earn a Grade of "B."

If the student shows exceptional handling of animation concepts and produces an exceptional quality video, that student will earn a Grade of "A."

These evaluations are based on the judgment of the instructor.

A student's attitude is considered in the evaluation process. Attendance, classroom behavior and the enthusiasm in tackling the work are taken into consideration in his or her final evaluation.

### **Academic Integrity Statement:**

Students are expected to comply with the college-wide requirements for academic integrity. Mercer County Community College is committed to Academic Integrity—the honest, fair, and continuing pursuit of knowledge, free from fraud or deception. This implies that students are expected to be responsible for their own work. Presenting another individual's work as one's own and receiving excessive help from another individual will qualify as a violation of Academic Integrity. The entire policy on Academic Integrity is located in the Student handbook and is found on the college website ([http://www.mccc.edu/admissions\\_policies\\_integrity.shtml](http://www.mccc.edu/admissions_policies_integrity.shtml)).

## **IV. INSTRUCTIONAL MODES TO BE USED**

1. Lectures using slides, and ACM Siggraph videotapes
2. Demonstrations
3. Films
4. Field trips
5. One to one instruction
6. Class critiques

## **V. TYPICAL COURSE CONTENT**

### **WEEK 1:**

#### **Session #1**

- Course overview. Alias/Wavefront Maya 4 overview.

#### **Session #2**

- Introduction to **PROJECT 1, FACIAL ANIMATION**, Due Week 5.

### **WEEK 2:**

#### **Session #1**

- DEMO: Facial Animation. Blend Shape.

#### **Session #2**

- DEMO: Targets. Deformations.

### **WEEK 3:**

#### **Session #1**

- DEMO: Aim Constraints.

#### **Session #2**

- DEMO: Parenting and Grouping.

### **WEEK 4:**

#### **Session #1**

- Questions & Answers

#### **Session #2**

- Questions & Answers

## **WEEK 5:**

### **Session #1**

- **PROJECT 1 DUE: PRESENTATIONS**
- Introduction to **PROJECT 2: ANIMATED PERSONIFICATION OF AN INANIMATE OBJECT**, Due Week 9.
  - DEMO: Storyboarding.
- **FOR NEXT CLASS: Bring a storyboard for Project 2.**

### **Session #2**

- **STORYBOARDS REVIEW: Project 2.**

## **WEEK 6:**

### **Session #1**

- DEMO: Solid Modeling.

### **Session #2**

- DEMO: Building a Skeleton with Inverse Kinematics.

## **WEEK 7:**

### **Session #1**

- DEMO: Skinning.

### **Session #2**

- DEMO: Animating with Inverse Kinematics.

## **WEEK 8:   **Session #1****

- Questions & Answers

### **Session #2**

- Questions & Answers
- **FOR NEXT CLASS: Bring a storyboard and character design for Project 3.**

## **WEEK 9:**

### **Session #1**

- **PROJECT 2 DUE: PRESENTATIONS**
- Introduction to **PROJECT 3: THESIS PROJECT PART 1**, **Due Week 12.**
- **STORYBOARDS REVIEW: Project 3.**

### **Session #2**

- DEMO: Advanced Modeling.

## **WEEK 10:**

### **Session #1**

- **DEMO: Advanced Skeletons.**

### **Session #2**

- DEMO: Rigging and Skinning.

## **WEEK 11:**

### **Session #1**

- Questions & Answers

### **Session #2**

- Questions & Answers

## **WEEK 12**

### **Session #1**

- PROJECT 3 DUE: PRESENTATIONS
- Introduction to **PROJECT 4: THESIS PROJECT PART 2**, Due Week 15.

### **Session #2**

- DEMO: Compositing.

## **WEEK 13**

### **Session #1**

- DEMO: Effects case studies.

### **Session #2**

- DEMO: Materials case studies.

## **WEEK 14:**

### **Session #1**

- DEMO: Rendering and going to tape.

### **Session #2**

- DEMO: Putting it all together building a demo reel.

## **WEEK 15:**

### **Session #1**

- Questions & Answers

### **Session #2**

- PROJECT 4 Due: PRESENTATIONS / FINAL CLASS CRITIQUE. Individual presentations. Each student must give a 5-10 minute critique of his or her demo reel.