

**OAKTON COMMUNITY COLLEGE
GENERIC COURSE SYLLABUS**

I.	Course Prefix	Course Number	Course Name	Credit	Lecture	Lab
	ART	260	3D Animation and Multimedia	3	0	6

II. Prerequisites

ART 250 OR INSTRUCTOR CONSENT

III. Course (Catalogue) Description

This course explores the design and production of animation and multimedia applications. Topics studied include: three-dimensional rendering; its relationship to traditional two-dimensional graphic production; computer animation; and multimedia concepts and production procedures. The course also covers the different media of computer sound, text, and imaging, and how these are combined into multimedia productions.

IV. Learning Objectives

- A. To understand how multimedia productions are put together.
- B. To demonstrate the ability to design and produce multimedia productions
- C. To understand the limitations of multimedia productions and presentations.
- D. To demonstrate the ability to create and render three-dimensional objects.
- E. To demonstrate the ability to animate three-dimensional objects in space.
- F. To understand the differences of two-dimensional and three-dimensional rendering.

V. Academic Integrity

The very nature of higher education requires that students adhere to accepted standards of academic integrity. Therefore, Oakton Community College has adopted a Code of Academic Conduct and a Statement of Student Academic Integrity. These may be found in the Student Handbook. You may also find a summary of the Code of Academic Conduct in the College Catalog. Among the violations of academic integrity listed and defined are: cheating, plagiarism, falsification and fabrication, abuse of academic materials, complicity in academic dishonesty, falsification of records and official documents, personal misrepresentation and proxy, and bribes, favors, and threats.

It is the student's responsibility to be aware of behaviors that constitute academic dishonesty.

Pursuant to the due process guarantees contained in the Policy and Procedures on Student Academic Integrity, the minimum punishment for the first offense for a student found in violation of the standards of academic integrity is failure in the assignment. In addition, a

disciplinary record will be established and kept on file in the office of the Vice-President for Student Affairs for a period of 3 years.

VI. Outline of Topics

I. Animation

- A. Definition and History of Animation
- B. Twelve Principles of Animation
- C. Camera Production
 - 1. Setting views
 - 2. Animation paths
 - 3. Key frames
 - 4. Modification of paths
 - 5. Frame numbers
 - 6. Sequences
- D. Timing
- E. Editing
- F. Lighting
- G. Resolution

II. Multimedia

- A. Basic Principles
- B. Audio Production
 - 1. File types
 - 2. Sound
 - 3. Standards
 - 4. Midi
 - 5. Hardware
 - a. Boards
 - b. Midi hardware
- C. Video
 - 1. Monitor
 - a. Quality
 - b. Refresh rates
 - c. Interlacing
 - d. Convergence
 - 2. Inputs and Manipulation

- a. Frames per second
 - b. Titles and type
 - c. Editing and effects
 - d. Analog and Digital Cameras
 3. Storage
 - a. Magnetic
 - b. CD-ROM and DVD
 - c. Hard drive
 4. Assemblies and Production
 - a. Planning and Storyboards
 - b. Multimedia work area
 - c. Power
 - d. Testing and preview
 5. Publishing
 - a. Diskettes
 - b. CD-ROM and DVD
 - c. Video Cassettes
- III. Three-Dimensional Rendering
- A. Two-Dimensional Rendering
 1. History of computer graphics
 2. Image production
 - a. Vector
 - b. Rasterization
 3. Resolution
 - a. Pixels per inch
 - b. Print attributes
 - c. Image sizing
 4. Two-dimensional qualities
 - a. Balance, rhythm and harmony
 - b. Tone, texture, and form
 - B. Modeling
 1. Drawing objects
 - a. Line
 - b. Polygon

- c. Rectangle
 - d. Box
 - e. Arc
 - f. Ellipse
 - g. Cone
 - h. Cylinder
- C. Drawing in three-dimensional space
- 1. Setting points
 - 2. Absolute vs. Relative
 - 3. Rotation
 - 4. Center of field
- D. Modifying
- 1. Deletion
 - 2. Extrude
 - 3. Lathe
 - 4. Linking
 - 5. Polygon meshes
 - 6. Copying objects
 - 7. Grouping
 - 8. Open and closing
 - 9. Paste and imbed
 - 10. Welding
 - 11. Corner
 - 12. Moving points
- E. Rendering
- 1. Texture mapping
 - 2. Scaling textures
 - 3. Color palettes
 - 4. Surface qualities
 - 5. Smoothing
 - 6. Join objects
 - 7. Bump texture
 - 8. Material libraries
 - 9. Lighting

- a. Positioning
 - b. Types of lights
 - c. Shadows
 - d. Color of light
10. Options
- a. Final aspect and resolution
 - b. Viewing
11. Alpha Channels
12. Reflections

VII. Methods of Instruction

This course will be presented using a combination of lectures, slide presentations and the use of college computer workstations.

VIII. Course Practices Required

- A. Attend all critiques and quizzes as scheduled in the course calendar
- B. Take final exam
- C. Produce three clips on VHS tape, and produce 4 8x10 prints exhibiting modeling techniques and shading
- D. Attend all classes and labs

IX. Instructional Materials

- A. 3 ½" high density diskettes
- B. 11 x 14 mount board and white museum grade board for matting
- C. 12 sheets of Ink-Jet glossy paper
- D. Blank CD disk
- E. Blank VHS tape

X. Methods of Evaluating Student Progress

A. Grading

The final grade will be based upon the following elements and their weights:

- 1. Quizzes 25%
- 2. Critiques 25%
- 3. Final Test 25%
- 4. Final Critique

B. VHS clips will be evaluated in the following manner:

1. Modeling, Shading quality and editing
2. Animation quality and the use of the twelve principles of animation
3. Technical quality relating to issues of compression, rendering and pixalization

Prints will be evaluated in the following manner:

1. Print quality
2. Craftsmanship
3. Use of modeling and shading techniques

C. Critique

The critique offers students the opportunity to show their work to the class and to the instructor and obtain feedback critical to the development of their work. There will be four critiques. The following will be due at each critique:

Critique #1: Video clip #1

Critique #2: Video clip#2

Critique #3: 4 prints mounted and finished

Final Critique #4: Video clip #3 and portfolio review of all assignments

D. Final Examination

A final examination will be administered at the end of the semester on the date indicated on the class schedule sheet. The final examination will consist of 25 multiple-choice questions.

E. Quizzes

Quizzes will be administered at the critiques.

F. Attendance

Attendance is mandatory at critiques and quizzes. Students who miss a critique (unless cleared by the instructor) will receive a 0 grade for that quiz and the critique.

G. Assignments

All assignments are due at the critiques, as scheduled.

XI. Other Course Information:

If you have a documented learning, psychological, or physical disability you may be entitled to reasonable academic accommodations or services. To request accommodations or services, contact the ASSIST office in the Learning Center. All students are expected to fulfill essential course requirements. The College will not waive any essential skill or requirement of a course or degree program.

Approval Dates

Effective beginning term:	<u>Fall, 2003</u> (term) (year)	Ending term:	<u> </u> (term) (year)
Syllabus prepared by:	<u>Bernard Krule</u>	Date:	<u>07/16/03</u>
Revised by:	<u> </u>	Date:	<u> </u>
Reviewed by Dept/ Program Chair:	<u>Bernard Krule</u>	Date:	<u>07/16/03</u>
Approval by Dean:	<u>Linda A. Korbel</u>	Date:	<u>07/16/03</u>