

# Glassboro State College Senate Curriculum Committee

## Approval Form

Proposal Title: Computer <sup>motion Graphics</sup> Animation II 1009.375

Sponsor(s) Desmond McLean Dept.: ART Ext. 7081

Check one:  Course  Specialization  Concentration  Minor  Achievement Certificate  
 Certification Program  Major Program  Minor Change (please name deletion or credit/title/catalog change)

Undergraduate  Graduate 3 Credit Hours

<p><b>Step 1 (Department)</b></p> <p><input checked="" type="checkbox"/> Approved <u>Oct. 21, 1988</u> Date</p> <p><input type="checkbox"/> Not Approved</p> <p>_____ Dept. CC Chairperson</p> <p><input type="checkbox"/> Reviewed <u>Oct. 20, 1988</u> Date</p> <p><u>Attian</u> Dept. Chairperson</p>	<p><b>Step 2 (Receipt)</b></p> <p><input type="checkbox"/> SCC# <u>88-81-09</u></p> <p>Proposal Received <u>11/7/88</u> Date</p> <p><u>Brenda A. Bolz</u> SCC Chairperson</p>	<p><b>Step 3 (School CC)</b></p> <p>Reviewed _____</p> <p><input type="checkbox"/> Approved <input type="checkbox"/> Not Approved</p> <p><b>Comments:</b></p> <p>_____ School Curr. Comm. Chairperson</p>
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**Step 4 (Academic Dean)** **Comments:**

Recommend  
 Not Recommend  
 Conditionally Recommend (see comments)

Reviewed 12/23/88  
Date

William Allen  
Signature, Dean of School

**Step 5 (SCC)**

Open Hearing 3/16/89 <sup>12 40</sup>  Approved by Senate Curriculum Committee 3/16/89  
Date Date

Returned to sponsor(s) for the following reasons:

**Step 6 (Senate)**

Presented to Senate 3/17  
Date

Approved  Not Approved

Notification to Executive Vice-President/Provost 3/31/89  
Date

Brenda A. Bolz  
Signature, SCC Chairperson

Course Title

COMPUTER MOTION GRAPHICS II

**Desmond McLean  
Art Department  
Glassboro State College**

**October 20, 1988**

**ONE- DETAILS**

COURSE TITLE: COMPUTER ANIMATION II

SPONSOR: Desmond McLean, Art Department.

LEVEL: Undergraduate— upper division.

COURSE CREDIT: 3 semester hours

CURRICULAR EFFECT: Free Elective

TIME & IMPLEMENTATION: September 1989: one course each semester

PREREQUISITES: Computer Motion Graphics I

**STAFF & RESOURCES**

As director of the three dimensional animation grant for \$104,465, awarded the college by the Department of Higher Education (DHE), Desmond McLean will teach this course. The equipment acquired under the grant will provide the facilities with dedicated space provided by the college. The hardware includes high-end workstations based on 386/387 chip technology at 25 MHz, a chip technology RGB video camera, a quartz light copy-stand and a fully equipped 3/4" video tape recorder. The three workstations include the following: a monochrome and an RGB monitor; one with a 114 mg and two with 70 mg hard-discs; 1.2 Mb floppy disk; 640 Kb RAM; 4 Mb of 32-bit high speed memory; 512 x 512 x 32 bit frame buffer; genlock module for video output; 8 expansion slots; digitizing tablets with stylus and puck.

The software programs permit the building of 3D models from 2D outlines, extrusion of 2D shapes, spinning 2D shapes, complex motion paths, high speed renderer through flat, smooth (phong), and true metal shading, plus glass. Transparent and opaque surfaces, reflection mapping, local light sources and texture maps are included. A powerful software program animates objects according to motion scripting. Lights, camera, and actors can be moved in a scene. Cells are rendered rapidly through the 25MHz machines. Software permits image digitizing from video camera and flat-bed scanner.

Video equipment (single frame VTR controller, sync-generator-encoder and a vcr) permits the recording of images on 3/4" cassette tape. The cassettes created will be used to record and display student creativity in a contemporary medium.

For hard-copy other than the video-out, there are thermal and ink-jet printers. A high-resolution 35mm slide machine will create transparencies for projection and photographic enlargement.

## **TWO— RATIONALE**

**A.** This course is a continuation of the work started in Computer Motion Graphics I. The three dimensional motion studies, started in the first course, are continued throughout the semester. This advanced course will allow our students to create more professional motion graphics based on their design skills in 2D and 3D visual art forms. Designing expressive and communicative graphic forms for video display is a suitable culmination for visual artists.

Three dimensional computer animation is labor intensive, requiring many hours of work, one of the reasons it costs an average of \$1,600 a second to buy computer animation for television. In order to master these skills, two courses are a minimum necessity. The introductory motion graphics course does not allow enough time for mastery of the complex tools and functions in the software. Other areas of concentration in the arts require several courses for mastery. If college curricula at other institutions are any indication (Pratt and Ohio State University for example), four courses in the technology of this new art form are common. Three recent classified employment advertisements (Sept. 25, 1988) in the New York Times and in the Philadelphia Inquirer for computer artists required a year's experience.

To get the most for our grant dollar we must make more than one course available to our students. Two courses will increase student access time and presents a serious learning experience and an involvement with the technology. Student portfolios based on two semesters of work are clearly more impressive with the additional course-time and reveal a student's mastery.

The Department of Higher Education's grant of \$104,465 to Glassboro State College's Art Department must be supported by a minimum of two courses utilizing the technology supplied.

Computer motion graphics increases the attractiveness of art and television studies for prospective students. The college will benefit from the association with dynamic and contemporary technological offerings.

**B.** With the high-end workstations our students will be able to bring movement and color to fine and commercial art, theatre design, and video production. The electronic-light medium of computer motion graphics supports several concentrations within the college and is itself a career that also relates to slide-creating, illustration, presentation programming and desk-top publication. Artistic production in these courses goes beyond the two-dimensional frame, useful in itself, to visual art in motion.

### **THREE— ESSENCE OF THE COURSE**

#### **A. Major Objectives**

1. To introduce the student to the expressive and communicative power of motion with color.
2. To create the following with the software and hardware provided: animation cells; three-dimensional objects with lighting, shading and movement scripts in spatial scenes; completed animated sequences and statements.
3. To provide students with competence in a skill area that has opportunities for employment in a high technology area with costs at \$1,600 a second for finished work.
4. To use the animation equipment for two-dimensional artistic & communication needs, i.e. printed hard copy from the color thermal printer for design, illustration, drawing.
5. To enrich college video presentations.

#### **B. Specific Objectives**

1. Students will master modeling, rendering and animation programs which will include the following: building 3D model from 2D outlines using wire framing; extruding 2D shapes; spinning 2D shapes around x, y or z axis; planning complex motion paths; rendering flat, smooth (phong), glass, and true metal shading; create transparent & opaque surfaces; create reflection maps; design several lighting sources; overlap, cut or repeat texture maps; create motion scripts for movements of hundreds of individual 3D

models per scene; create hierarchical motion scripts to relate moving objects; script translation, rotation, stretching, squashing; script light sources with camera angles.

2. Students will use the above functions to create computer motion graphics and animated sequences of 6 seconds with video capture of their creative work.
3. To create color prints with the color thermal or ink-jet printer and 35mm 4,000 line slides for exhibitions and for commercial uses.

### **C. Course Content**

1. Students will begin with single cells for planned two dimensional sequences.
2. Brief two-dimensional motion sequences based on elementary software tools.
3. The creation of a fully motion graphic 3-to 5-second sequence with fully animated objects and figures.
4. A field trip will be made to a commercial computer motion graphics video station and animation studio.
5. Participation in professional computer art special interest groups will be encouraged (SCAN & SIGGRAPH).

### **D. Evaluation**

1. Student work: Mid-semester evaluations will be applied to student cell work, scripting and two dimensional motion graphics and animations. Completed student animation will be evaluated by the instructor and a faculty member teaching television production .

2. The course: The teacher of this course with two G.S.C. faculty (commercial art and television production professors) will evaluate the course and create an instrument so that students may evaluate their experience in the course.

## **FOUR-- CONSULTATION**

1. The course will be submitted to the Art Department Curriculum Committee and the College Curriculum Committee.

2. Dr. John Gianotti, Rutgers University, Camden, (Director of Computer Art) will evaluate the course.

*Pre-requisite : Computer Motion Graphics I*

**~~FIVE~~ CATALOG DESCRIPTION**

Students will continue 3D animation from ~~2D-3D-Computer Animation I~~ with software programs that permit the creation of ~~Commercial~~ <sup>Professional</sup> quality images. The advanced technology ~~provided by a grant from the Department of Higher Education~~ will allow students to experiment with motion graphics for ~~fine art sequences, and for commercially oriented 2D or 3D-motion graphics and animation for television.~~ <sup>and commercial art</sup>

~~The hardware and software allows students to access the following tools and functions: texture mapping, 3D modeling, motion path designing, light scripting, metallic shading, reflectance mapping. Student projects may included digitized images with the video equipment available. The visual works created will be captured by printers, slide makers and on video cassettes for display on VCRs, with broadcast quality equipment. (This course has been supported by a grant from the Dept. of Higher Education.)~~

## COMPUTER MOTION GRAPHICS II

**Pre-requisite: Computer Motion Graphics I**

Students will continue 3D animation from Computer Motion Graphics I with software programs that permit the creation of professional quality images. The advanced technology will allow students to experiment with motion graphics for fine art and commercial art sequences.

Student projects may include digitized images with the video equipment available. The visual works created will be captured by printers, slide makers and on video cassettes for display on VCR's.

**Step 7 (Executive V.P./Provost)**

Received 4/3/09  
Date

Approved  Yes  No

If no, reasons are as follows:

Student credit hours 3  
Faculty load hours 3  
Equalized credit hours 4  
Official copy and approval sheet filed 4/25  
Date

Adrian Tinsley  
Signature, Executive Vice-President/Provost

**Registrar**

Approved course description received \_\_\_\_\_  
Date

Hegis Taxonomy and Course Number assigned 1009.375 Rec KAC 4/10/09  
\_\_\_\_\_  
Signature, Registrar Date

**Notification forwarded:**

- Senate Curriculum Committee Chairperson
- Department Chairperson(s)
- Academic Dean
- Registrar
- Sponsor(s)