

Glassboro State College Senate Curriculum Committee

Approval Form

Proposal Title: Computer ^{motion graphic} Animation 1 1009.365

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>Step 1 (Department)</p> <p><input checked="" type="checkbox"/> Approved <u>Oct 20, 88</u> Date</p> <p><input type="checkbox"/> Not Approved</p> <p><u>[Signature]</u> Dept. CC Chairperson</p> <p><input type="checkbox"/> Reviewed <u>Oct 20, 1988</u> Date</p> <p><u>[Signature]</u> Dept. Chairperson</p>	<p>Step 2 (Receipt)</p> <p><input type="checkbox"/> SCC# <u>88-89-08</u></p> <p>Proposal Received <u>11/01/88</u> Date</p> <p><u>[Signature]</u> SCC Chairperson</p>	<p>Step 3 (School CC)</p> <p>Reviewed _____</p> <p><input type="checkbox"/> Approved <input type="checkbox"/> Not Approved</p> <p>Comments:</p> <p>_____ School Curr. Comm. Chairperson</p>
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Step 4 (Academic Dean)

Recommend
 Not Recommend
 Conditionally Recommend (see comments)

Reviewed 12/19/88
Date

Comments:
Fellows whom we are attempting to establish in computer art.

[Signature]
Signature, Dean of School

Step 5 (SCC)

Open Hearing 3/16/89 ^{12:40}
Date

Approved by Senate Curriculum Committee 3/16/89
Date

Returned to sponsor(s) for the following reasons:
Title (?)

Step 6 (Senate)

Presented to Senate 3/17/89
Date

Approved Not Approved

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

[Signature]
Signature, SCC Chairperson

Step 7 (Executive V.P./Provost)

Received 4/9/09
Date

Approved Yes No

If no, reasons are as follows:

Student credit hours 3

Faculty load hours 3

Equalized credit hours 2

Official copy and approval sheet filed 4/25/09
Date

Adrian Tinsley
Signature, Executive Vice-President/Provost

Registrar

Approved course description received _____
Date

Hegis Taxonomy and Course Number assigned 1009.365 Rec KRC 4/10/09

Signature, Registrar Date

Notification forwarded:

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

Course Title

COMPUTER MOTION GRAPHICS I

**Desmond McLean
Art Department
Glassboro State College**

October 20, 1988

ONE-**DETAILS:**

COURSE TITLE:	Computer Motion Graphics- I
SPONSOR:	Desmond McLean, Art Department.
LEVEL:	Undergraduate— upper division.
COURSE CREDIT:	3 semester hours.
CURRICULAR EFFECT:	Free Elective
TIME-IMPLEMENTATION:	January 1989: one course each semester
PREREQUISITES:	Introduction to Computer Art or Video Production courses.

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 for the course. This hardware includes three high-end work-stations, high resolution video digitizing capability with a quartz light copying stand, a RGB chip technology 3/4" video camera.

The equipment will be available from 9 am to 8 pm, Monday through Friday in the Computer Art Studio adjacent to the Wilson Building Music Library. Each workstation includes the following: a monochrome and an RGB monitor; a 70 megabyte hard-disc; 80386 c.p.u. with 80387 numeric coprocessor; 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 tablet with stylus and puck. Three dual 20 megabyte mass storage units accompany each workstation for student copy. Included are the software programs which permit the building of 3D models from 2D outlines, extrusion of 2D shapes, spinning 2D shapes, complex motion paths, high speed 3D rendering provides flat, smooth (phong) , and true metal shading, plus glass effects.

Transparent and opaque surfaces, reflection mapping, local light sources and texture maps are included. Software animation programs objects according to motion scripting. The artist can move lights, camera, and actors in a scene. There is a program for rendering the cells created. Frame grabs may be done via a special program that digitizes images from a scanner and from a chip technology RGB video camera. Thirty-five mm high resolution (4,000 line) slides will be captured for projection and printing.

Video equipment (single frame VTR controller, sync-generator/encoder and a vcr) included in the grant permits the recording of images on 3/4" cassette tape. A thermal printer creates two-dimensional hardcopy for proofing and for display. A color scanner will be linked to a Mac II computer for high resolution manipulation with design, drawing and painting software programs. Students will use removable cassettes to record and display their creative work in this contemporary medium.

TWO- RATIONALE

A. With two- and three-dimensional computer motion graphics and animation courses supported by the D.H.E. grant, Glassboro State College's Art Department will be on a par with other area colleges. Rutgers University (New Brunswick and Camden), the University of Delaware, Tyler School of Art, Princeton University and the University of the Arts, Philadelphia include computer motion graphics and animation in their curricula. The design, visual and creative skills necessary for vital communication on the television screen develop in art programs where 2 and 3 dimensional design is considered fundamental to the visual arts. Designing shapes, motion paths, color relationships, form sequencing and spatial relationships is the artist's language.

Computer Motion Graphics I and II will give our students the educational advantages necessary in today's marketplace. These two courses will increase the attraction of art and television as areas of study for prospective students. The college's image as a dynamic and forward-looking institution will be greatly enhanced.

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 for careers in business and industry.

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: 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 and communication needs, i.e. printed hard copy from the color thermal or ink-jet printer for design, illustration, drawing, etc.
5. To enrich the college with the means to produce video presentations.

B. Specific Objectives

1. Students will master modeling and animation software which will enable them to accomplish the following: build 3D model from 2D outlines using wire framing; extrude 2D shapes; spin 2D shapes around x, y or z axis; follow complex motion paths; render 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 for a semester's work.
3. Students will create color prints with the color thermal printer for fine arts display and exhibition and for commercial proofing.

C. Course Content

1. Single cell-animation for two-dimensional sequences will introduce the students to the course.

2. Brief two-dimensional animation sequences based on elementary software tools.
3. A fully animated 6 second sequence.
4. A field trip will be made to a commercial computer motion graphics studio.
5. Participation in professional computer art special-interest groups will be encouraged (SCAN & SIGGRAPH).

D. Evaluation

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

B. 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.

FOUR. CONSULTATION

- A.** The course will be submitted to the Art Department Curriculum Committee and the College Curriculum Committee.
- B.** Dr. John Gianotti, Rutgers University, Camden (Computer Art) has received a copy of the course and will evaluate the course.

FIVE. CATALOG DESCRIPTION

Students will master software programs that will allow them to create broadcast quality three-dimensional computer graphics and animation on professional computer workstations. ~~Students will begin with cells that lead to two-dimensional sequences.~~ The full potential of the software will be used for brief three-dimensional sequences. Texture mapping, 3D modeling, designing motion paths, lighting plans, metallic shadings, and reflectance mapping are powerful tools available through the software. Student work will be captured on video cassettes for display on VCRs and as individual student portfolios.

~~(This course has been supported with a grant from the Department of Higher Education.)~~

COMPUTER MOTION GRAPHICS I

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