

Faculty Senate Curriculum Committee

Approval Form

(R)

Proposal Title: TOPICS IN COMPUTER GRAPHICS

Sponsor(s): Wai-kei Yau Dept.: Mathematics/Computer Science

Check one: Course Specialization Concentration 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 type="checkbox"/> Approved <u>4/15/85</u> <small>Date</small></p> <p><input type="checkbox"/> Not Approved</p> <p><u>[Signature]</u> <small>Dept. CC Chairperson</small></p> <p><input type="checkbox"/> Reviewed <u>4/17/85</u> <small>Date</small></p> <p><u>[Signature]</u> <small>Chairperson, Dept.</small></p>	<p>Step 2 (Receipt)</p> <p>SCC# _____</p> <p>Proposal Received _____ <small>Date</small></p> <p>_____ <small>Chairperson, SCC</small></p>	<p>Step 3 (School CC)</p> <p>Reviewed <u>11/19/85</u> <small>Date</small></p> <p><input checked="" type="checkbox"/> Approved</p> <p><input type="checkbox"/> Not Approved</p> <p><i>needs re-wording on objectives.</i> Comments: <i>Evidence of consultations should be attached - Perhaps consult with Dick Scott - as he</i> <u>[Signature]</u> <small>Chairperson, School Curr. Comm.</small></p>
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<p>Step 4 (Academic Dean)</p> <p>Reviewed <u>3/10/86</u> <small>Date</small></p>	<p>Comments:</p> <p><i>Mapping & some of same stuff is covered, though with different applications.</i></p> <p><u>[Signature]</u> <small>Signature, Dean of School</small></p>
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Step 5 (SCC)

Open Hearing 4/15/86 Approved by Senate Curriculum Committee 4/15/86
Date Date

Returned to sponsor(s) for the following reasons:

Step 6 (Faculty Senate)

Presented to Faculty Senate : _____ Approved Not Approved
Date

Notification to Vice-President Academic Affairs _____
Date Signature, SCC Chairperson

Step 7 (Vice-President for Academic Affairs)

Received 5/15/86
Date

Approved Yes No

If no. reasons are as follows:

Student credit hours 3

Faculty load hours 3

Equalized credit hours 3

Official copy and approval sheet filed 9/16/86
Date

Signature _____

Vice-President for Academic Affairs

Registrar

Approved course description received _____
Date

Hegis Taxonomy and Course Number assigned _____

Signature _____
Registrar

Date

Notification forwarded: Senate Curriculum Committee Chairperson, Department Chairperson(s), Academic Dean(s), Registrar, Sponsor(s).

COURSE PROPOSAL

TOPICS IN COMPUTER GRAPHICS

1. Details

- a. Course Title : Topics in Computer Graphics
- b. Sponsor: Wai-kei Yau, Department of Mathematics and Computer Science
- c. Course level : Junior/Senior
- d. Curricular effect : This course will be a restricted elective in bank 3 for the computer Science Major. Other majors will not be affected.
- e. Prerequisites: Data Structure and Algorithms (0704.322), Linear Algebra (1701.210), Programming Languages (0704.315).
- f. We expect to offer one section of this course each year beginning with the Spring 1986 semester.
- g. Facilities and resources will be adequate. There are currently three faculty members in the department well prepared to teach this course. The department has ordered necessary hardware (high resolution color display and cards and software (PC graphics systems). Additional hardware are under consideration.

2. Rationale

This is an undergraduate course in computer graphics. It provides students with knowledge and hands-on experience in an area which is becoming increasingly important in computer science, both in graduate study and commercial applications such as Computer-Aided Design, Computer Landscaping and Animation.

3. Essence

- a. Students who complete this course will have learned:
 - i. Fundamentals of display devices and processors.
 - ii. Generation of characters, straight lines and curves specified by description in a graphics language/package.
 - iii. Windowing, clipping, panning and zooming.
 - iv. Geometrical transformation in 2 dimensions and 3 dimensions.

v. Algorithms for faster display such as scan-line conversion, polygon fill and polygon clipping.

vi. Hidden line and hidden surface elimination.

vii. Animation.

b. Students will be graded on the basis of homework assignments, at least one examination, and at least one substantial project.

c. The department's curriculum committee will evaluate this course after two years by examining student exams, projects and evaluations and by conferring with the course instructor(s) and students.

4. Consultations

- a. Ollie Winn, Business Administrations
- b. Leigh Weiss, Industrial Education & Technology
- c. Des McLean, Arts

5. Recommended Text Books

J.D. Foley and A. Van Dam : Fundamentals of Interactive Computer Graphics, Addison-Wesley.

Joan E. Scott : Introduction to Interactive Computer Graphics, Prentice Hall.

CATALOG DESCRIPTION

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0704.360 TOPICS IN COMPUTER GRAPHICS
(Pre-requisites : 0704.322, 1701.210, 0704.315)

This is an junior/senior level course in computer graphics. Topics covered in this course include fundamentals of graphics devices; use of graphics language/packages; windowing and clipping; geometrical transformation in 2- and 3-D; raster display algorithms; hidden line and surface elimination; animation.

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Suggested Hegis number.