

College of Professional and Technological Studies

Created 01/25/06

PROPOSAL SUMMARY AND ROUTING FORM

Proposal Title: Digital Sculpture and Texturing

Initiating Unit or Individual: David Baker

Contact Person's Name: David Baker e-mail: davidbaker@ferris.edu phone: 616-233-6498

Date or Semester of Proposal Implementation: Fall 2008

- Group I - A – New degree/major or major, or redirection of a current offering
- Group I - B – New minors or concentrations
- Group II - A – Minor curriculum clean-up and course changes
- Group II - B – New Course
- Group III - Certificates
- Group IV – Off-Campus Programs

Group/Individual	Signature	Date	Vote/Action *
Program Faculty	<i>David Baker</i>	3-5-08	<input checked="" type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
College Faculty	<i>Frederick Baker</i>	3-5-08	<input type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
Dean	<i>Donald Fisher</i>	3-5-08	<input checked="" type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
University Curriculum Committee			<input type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
Senate			<input type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
Academic Affairs	<i>Donald Fisher</i>	3/7/08	<input checked="" type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support

\* Support with Concerns or Not Support must include a list of concerns.

To be completed by Academic Affairs

\_\_\_\_\_  
President (Date Approved)      Board of Trustees (Date Approved)      President's Council (Date Approved)

**1. Proposal Summary**

Digital Animation and Game Design as a program continues to grow and with that growth comes need for learning in new areas. As digital media projects increase in range and scope, so does the necessity of high quality modeling skills in our students. Existing 3d class cover the basics of modeling but further modeling skills are needed to be attractive to industry. The proposed course is being added to meet the digital sculpting needs of the program.

**2. Summary of All Course Action Required\***

**a. Newly Created Courses to FSU:**

Prefix	Number	Title
DAGD	390	Digital Sculpture and Texturing

**b. Courses to be Deleted From FSU Catalog:**

Prefix	Number	Title
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**c. Existing Course(s) to be Modified:**

Prefix	Number	Title
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**d. Addition of existing FSU courses to program**

Prefix	Number	Title
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**e. Removal of existing FSU courses from program**

Prefix	Number	Title
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\*Contact Senate Secretary or UCC Chair if spaces for additional courses are needed.

## NEW COURSE INFORMATION FORM

*See Sample – Limit to Two Pages Please*

### Course Identification:

<b>Prefix:</b>	<b>Number</b>	<b>Title</b>
DAGD	390	Digital Sculpting and Texturing

### Course Description:

Digital modeling, sculpting and texturing for animation and game development.

### Course Outcomes and Assessment Plan:

- I. Research of existing and applied modeling and animation techniques for characters and structures as demonstrated through quizzes (tests), discussion, presentation, research (tutorial) paper, and especially the development of projects and a digital portfolio.
- II. Exploration and analysis of the core shapes of objects used to create complex photorealistic models as measured by completion of start-to-finish high-detail projects, facilitated through lecture, readings, and discussion.
- III. Observe, study, and communicate real-world anatomy and textures for 3D replication and manipulation through discussion, presentation, and research (tutorial) paper.
- IV. Development, analysis, and application of project management as measured by tracking proposed schedules and milestones against actual timelines.
- V. Demonstration of learned skills in advanced modeling, texturing, and compositing through presentation of a digital course portfolio.

### Course Outline including Time Allocation: *— 60 hrs*

- I. Introduction (2 hours) - Understanding the course objectives as they relate to the programs used and outcomes expected.
- II. Interface (4 hours) – An overview of all interface areas as well as practice uses for the unique pieces of Zbrush.
- III. 3D vs 2.5D (2 hours) – Understanding how and when to use and 3D brushes vs 2.5D brushes and use them effectively.
- IV. Brushes and Alphas (1 hour) – Understanding how to create custom brushes and alphas within Zbrush to increase photorealism and detail of sculpts.
- V. Advanced modeling techniques (16 hours) - Understanding core shape of objects and planning steps before creating the model. Both concept and detail modeling. Learners will apply those steps to create a photorealistic model.
- VI. Digital painting and texturing (8 hours) - Creating complex layered textures which include diffuse, normal, and displacement mapping data. Altering photographic images to work with the 3D model. Learners will apply both poly painting and projection painting.
- VII. Material creation (2 hours) - Creating material types that work as a real material including how it reflects light or how light passes through it. Materials developed will be applied and evaluated through project implementation.
- VIII. Human and Animal Anatomy (4 hours) - Creating realistic and believable humanoid characters by having a knowledge of balance, structure and functions of the muscular and corium systems. This may include the use of subsurface scattering.
- IX. Poly Groups (4 hours) - Learn how simple objects added to the scene can increase realism. Understand techniques for quickly creating props.
- X. Zsphere Modeling (4 hours) - Understand how to model and generate base meshes for high end sculpting quickly with minimal geometry to assist in animation and

rigging. Incorporation of Zsphere modeling will be evaluated through use in delivered projects.

- XI. Lighting (2 hours) - Learning lighting techniques for both organic and ridged body scenes.
- XII. Rendering (2 hours) - Setup rendering processes that will deliver quality results without excessive render times.
- XIII. Workflows (5 hours) – Importing/Exporting useable geometry outside of Zbrush for game engines, cinema VFX, and 3D animations.
- XIV. Compositing (4 hours) - Rendering passes and combining these images to create complex final images that can be altered in post production.

# CREATE A NEW COURSE

Course Date Entry Form

FORM F  
Create Course  
rev. 2/14/05

## I. ACTION TO BE TAKEN: CREATE A NEW COURSE

Notes

1. Complete each item in section I and section II.
2. If this course is to be used as a prerequisite for other university courses, Form Fs that reflect the prerequisite change must be submitted for those courses as well.

Term Effective: a. Semester Fall b. Year 2008 See instructions.

## II. PROPOSED FOR NEW COURSE: Complete all sections of this part through Prerequisites. See instructions in manual for further clarification.

- a. Course Prefix DAGD b. Number 390 c. Enter Contact Hours or check Independent Study (X).  
LECTure 2 hr/week LAB 2 hr/week INDEpendent Study   
Practicum:  hr/semester Seminar:  hr/week
- d. Full Course Title: Digital Sculpturing and Texturing  
e. Abbreviated Course Title: . (Abbreviate only if necessary. Use Arabic numerals. Limit to 26 characters and spaces.)  
f. Semester(s) Offered: Fall (See instructions for listing.) g. Max. Section Enrollment: 24

Credit Hours: Check (x) type and enter maximum and minimum hours in boxes.

- h. Type:  Variable  Fixed i. Maximum Credit Hours 3 j. Minimum Credit Hours 3  
k. Grade Method: Check (x)  Normal Grading  Credit/No Credit only (Pass/Fail)  
m. May Be Repeated for Added Credit: Check (x)  Yes  No  
n. Levels: Check (x)  Undergraduate  Graduate  Professional  
o. Does proposed new course replace an equivalent course? Check (x)  Yes  No  
p. Equivalent course: Prefix  Number  See instructions on Replacement courses.

q. CATALOG DESCRIPTION - Limit to 75 words - PLEASE BE CONCISE.

This is a advance course in modeling and texturing as it relates to game design and animation.  
Topics include digital sculpture theory, modeling, advanced texturing, anatomy and production.

r. Prerequisite(s): (If no prerequisites, write "None") Limited to 60 spaces. DAGD 100.

UCC Chair Signature/Date: \_\_\_\_\_

Academic Affairs Approval Signature/Date: \_\_\_\_\_

*[Signature]* 3.1.08

To be completed by Academic Affairs Office: - Standard & Measures Coding and General Education Code

Basic Skill (BS)  General Education (GE)  Occupational Education (OC)  G.E. Codes

### Office of the Registrar use ONLY

Date Received: \_\_\_\_\_ Date Completed: \_\_\_\_\_ Entered: SIS [125 \_\_\_ 1D4 \_\_\_ 12R \_\_\_ 131 \_\_\_]