Add Course Request

Submitted on: 2012-12-03 15:39:56

1. **COURSE SUBJECT**	DMD
2. **COURSE NUMBER** (OR PROPOSED NUMBER)	2310
3. **COURSE TITLE**	3D Modeling 1
4. **INITIATING DEPARTMENT or UNIT**	Digital Media & Design
5. **NAME OF SUBMITTER**	Eva Gorbants
6. **PHONE of SUBMITTER**	Phone: +1 860 486 3016
7. **EMAIL of SUBMITTER**	Email: eva.gorbants@uconn.edu
8. **CONTACT PERSON**	Tim Hunter
9.**UNIT NUMBER of CONTACT PERSON** (U-BOX)	1041
10. **PHONE of contact person**	Phone: 6-2281/6-6765
11. **EMAIL of of contact person**	Email: tim.hunter@uconn.edu
12. Departmental Approval Date	11/05/2012
13. School/College Approval Date	12/03/2012
14. Names and Dates of additional Department and School/College approvals	
15. Proposed Implementation Date	Term: Fall, Year: 2013
16.Offered before next printed catalog is distributed?	No
17. **General Education Content Area**	
18. **General Education Skill Code (W/Q).** Any non-W section?	None
19. Terms Offered	Semester: Fall Spring Year: Every_Year
20. Sections	Sections Taught: 1-2
21. Student Number	Students/Sections: 16/section
22. Clarification: 1-2 sections per year, 16 students per section	
23. **Number of Credits**	03 if VAR Min: Max: credits each term
24. **INSTRUCTIONAL PATTERN** two three hour studios each week	
25. Will this course be taught in a language other than	No

English?	If yes, then name the language:
26. Please list any prerequisites, recommended preparation or suggested preparation: Prerequisites: 1000 DIGITAL FOUNDATION 1030 ANIMATION LAB 2300 3D ANIMATION I	
27. Is Instructor, Dept. Head or Unit **Consent Required**?	No
28. Permissions and Exclusions: Students should take this course in the in their third semester term	
29. Is this course **repeatable for credit**?	No If yes, total credits allowed: Allow multiple enrollments in same term?
30. **Grading Basis**	Graded
31. If satisfactory/unsatisfactory grading is proposed, please provide **rationale**:	
32. Will the course or any sections of the course be taught as Honors? AsHonors	
33. Additional Details: Other (specify): offered at the Storrs Campus	
34. Special Attributes:	
35. **REGIONAL CAMPUS AVAILABILITY**: The Storrs Campus currently has the digital media faculty and studio/lab facilities available to offer this course. Expansion to Stamford is possible.	
36. PROVIDE THE PROPOSED TITLE AND COMPLETE CATALOG COPY: 2310. 3D Modeling 1 Three Credits. Two 3-hour studio sessions. Prerequisites: DMD1000, DMD1030 & DMD2300. A comprehensive course designed to illuminate the connection between the audience and the image on screen. Students learn how to create polygonal 3D models using industry standard modeling tools.	
37. **RATIONALE** FOR ACTION REQUESTED This course is designed to provide Digital Media students instruction and guidance in the technique and critical understanding of animation specific to a 3D environment. In addition, this course is being added as part of the new Digital Media and Design curriculum pursuant to establishing both major and minor degrees. This course is also central to the curriculum of the new Department of Digital Media and Design and essential to creating the major and minor in this field. why the course is appropriate for the 1000 or 2000 level This is an introductory course for the DMD 3D Animation track which teaches foundational elements of modeling which will be used in more advanced courses throughout the 3D concentration.	

justification for enrollment restrictions
Enrollment is capped due to lab space and available equipment

effects on the regional campuses Currently not offered at the regional campuses. Expansion to the Stamford Campus is planned for the near future.

38. **SYLLABUS:**

Online URL: (https://web2.uconn.edu/senateform/request/course_uploads/evg02003-1354312057-Syllabus DMD 2310 Modeling1.docx)

39. **Course Information: ALL General Education courses, including W and Q courses, MUST answer this question**

40. **Goals of General Education: All Courses Proposed for a Gen Ed Content Area MUST answer this question**

41. **Content Area and/or Competency Criteria: ALL General Education courses, including W and Q courses, MUST answer this question.:** Specific Criteria

a. **Arts and Humanities:**
b. **Social Sciences:**
c. **Science and Technology:**
   i. **Laboratory:**
d. **Diversity and Multiculturalism:**
   43. **International:**
e. **Q course:**
f. **W course:**

42. **RESOURCES:**

Does the department/school/program currently have resources to offer the course as proposed
YES
If NO, please explain why and what resources are required to offer the course.

43. **SUPPLEMENTARY INFORMATION**:

ADMIN COMMENT:

Senate approved new course 12/10/12

UNIVERSITY OF CONNECTICUT

DEPARTMENT OF DIGITAL MEDIA AND DESIGN

3D MODELING 1

Course Number:	DMD2310
Location:	Bishop PC Lab
Course Instructor:	Perry Harovas
Office Location:	802 Bolton Road
Office Hours:	xxxx
Direct Phone:	860-486-6636
Email:	perry.harovas@uconn.edu

REQUIRED TEXTS:

Dynamic Anatomy by Burne Hogarth
ISBN-10: 0-8230-1552-1

COURSE DESCRIPTION:

3D Modeling I is an introductory course designed to teach students how to created polygonal 3D models using industry standard modeling tools. The aesthetic of simplicity is important as it relates to edge flow and geometry construction for both software and real-time rendering application. This course will be comprised of in class labs and take-home tests that will assess and inform both the instructor and the students of their progress and overall modeling skill level.

COURSE RATIONALE:

Proper modeling is an absolute requirement in a professional environment. These days, as more and more people specialize in a particular field of animation and visual effects, there is a need for good modelers who know the way to create a model sufficiently light to be deformed with a skeleton, but not so light that it lacks the detail needed to capture surface nuances. Because polygonal (and Subdivision Surface) modeling is the only truly cross-discipline (both offline and real-time rendering compatible), this is the only area we will strictly focus on.

LEARNING GOALS AND OBJECTIVES:

Upon completion of this course the student will:

[1] identify the necessity of simple and clean models.
[2] identify the physical and intellectual characteristics of modeling and edge flow.
[3] demonstrate intermediate-level proficiency with modeling tools.
[4] demonstrate an ability to model from a 2D design, making the transition to 3D.
[5] demonstrate an ability to model using proper edge flow and edge loops.

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COURSEWORK:

During this course students will:

[1] listen to lecture and participate in class discussion.
[2] complete lab exercises in designs from flat 2D illustrations to full 3D models.
[3] complete a finished modeling example image for their portfolio
[4] research modeling theory and add to personal handbook.
[5] be tested on all material.

INSTRUCTIONAL METHODS:

Instructional methods include: lecture, instructor-directed discussion, demonstration, hands on lab practice, individual and team-based projects, assigned text readings, media presentations and critiques, as well as written assignments (e.g. essays, research papers, reflection papers, technical reports).

ASSESSMENT:

Assessment for this course is comprised of participation and professional behavior, coursework evaluation, and written testing on all material; it occurs at specific times throughout the course and is designated as such in the course calendar.

PARTICIPATION STATEMENT:

Class participation is mandatory. Failure to attend class means you are not fulfilling your obligation to participate in discussion and thus, contribute to the overall learning experience of all. Students are expected to be present at the start of class and remain throughout the entire class period.

ACADEMIC INTEGRITY:

You are responsible for ensuring that original work is correctly attributed. You must give clear and complete attributions for the work of others in your own productions and in written work. Plagiarism will not be tolerated and may result in failure of the course or expulsion. Please refer to the Student Handbook.

GRADES:

Breakdown is as follows:

Item	Percentage	Points Possible
Participation, professional behavior	10%	10 points
Lab Exercises: Static and turntable modeling examples	25%	25 points
High resolution images and turntable animations of student models that follow required geometry layout flow	40%	40 points
Written Final Test	25%	25 points
Total	100%	100 points

ACADEMIC STANDARDS AND REGULATIONS

Definitions of letter grades are as follows:

Standard Grades

Grading is based on a 100 point scale and is as follows:

A 94-100
A- 90-93
B+ 87-89
B 84-86

B- 80-83
C+ 77-79
C 74-76
C- 70-73
D 60-69
F less than 60 points
I Incomplete

Letter grading explanation:

[A] Excellent. Student exhibits mastery of the material; demonstrates the ability to express and apply the material in a creative way, i.e., not simply what has been covered in the class or texts. Student demonstrates a strong articulation of personal voice, both in the work completed and in the presentation of material to the class.

[B] Good. Student exhibits an advanced understanding of material covered in class; has some consistency in performance on tests and assignments; presents the material in a clear, organized fashion, but needs further work on clear expression of ideas.

[C] Fair. Basic understanding of material covered in class. Concepts and facts are correct and covered in adequate depth; exhibits inconsistency (some areas covered well, others poorly, indicating some confusion over the material) or inability to clearly express understanding of the material.

[D] Poor. Student demonstrates perfunctory comprehension of the material; inconsistency of performance on tests and assignments; misunderstanding of the material; incomprehensive mastery of skills; excessive absences or lateness.

[F] Failure. Failure to complete the assignments as stated; failure to hand in an assignment; complete or near complete misunderstanding of the material; plagiarism; illiteracy; excessive absences or lateness.

[I] Incomplete. Incompletes are given at the discretion of the course instructor.

COURSE CALENDAR

Week 1

LECTURES

- **Class Discussion:** Meet the students and instructor.
- **Class Discussion:** Review the syllabus.
- **Lecture:** Introduction to user interface.
- **Lecture:** Introduction to basic polygon modeling tools.
- **Lecture:** User interface.
- **Lecture:** Basic polygon modeling tools.

ASSIGNMENTS

- **Assignment:** Create a basic polygon object. This assignment will show understanding of basic tools and workflows in the software package.

Week 2

LECTURES

- **Class Discussion:** Discuss defining basic shapes and volume using only primitives.
- **Lecture:** Creating and editing polygon primitives.
- **Lecture:** Polygon modification tools
- **Class Discussion:** Silhouettes.
- **Class Discussion:** Volume and form.
- **Lecture:** Evaluating silhouettes in the software.
- **Lecture:** Speed modeling techniques.

ASSIGNMENTS

- **Assignment Due:** Basic Polygon object.

Week 3

LECTURES

- **Class Discussion:** Basics of human form.
- **Class Discussion:** Dividing the human form into primitives.
- **Lecture:** Laying out image reference.
- **Lecture:** Checking accuracy of image reference.
- **Lecture:** Creating standard primitives to block out the human form.
- **Class Discussion:** Subdividing meshes to create localized detail.
- **Lecture:** Subdivision tools.
- **Lecture:** Subdividing the human mesh to refine shape.

ASSIGNMENTS

- **Assignment:** Begin Human Mesh project. Students will build a polygonal human.
- **Reading Assignment:** *Dynamic Anatomy*, pp 114-134

Week 4

LECTURES

- **Class Discussion:** Topology on meshes.
- **Class Discussion:** Good topology vs. bad topology.
- **Lecture:** Edge ring tools.
- **Lecture:** Edge loop tools.
- **Lecture:** Quickly subdividing the human mesh using edge loops and rings.
- **Class Discussion:** Cutting detail into a mesh outside of rings and loops.
- **Lecture:** Cutting detail into meshes.
- **Lecture:** Subdividing the human mesh to refine shape.

ASSIGNMENTS

- Continue Human Mesh Creation.

Week 5

LECTURES

- **Class Discussion:** Topology and surfaces.
- **Lecture:** Basic topology tools.
- **Lecture:** Refining the shape of the human mesh to create proper anatomy.
- **Class Discussion:** Topology and deformation.
- **Class Discussion:** Key areas for animation.
- **Lecture:** Retopologizing trouble spots on a mesh.
- **Lecture:** Creating working topology in a deformation area.
- **Lecture:** Refining the shape of the human mesh to create proper anatomy.

ASSIGNMENTS

- Continue Human Mesh Project.
- **Reading Assignment:** *Dynamic Anatomy*, pp 135-147
- **Written Assignment:** Write a competitive analysis of 3D artwork. Students will find competitive artwork, whether online, in magazines, or otherwise published, and analyze this artwork using the theory discussed in class. The artwork will be evaluated on appropriate or inappropriate choice of subject matter and execution, and other elements of the artwork will be analyzed with regard to theory discussed in class.

Week 6

LECTURES

- **Class Discussion:** Giveaways of 3D modeling.
- **Class Discussion:** Creating convincing 3D shapes using polygons.
- **Class Discussion:** The difference between light and heavy models.
- **Class Discussion:** Adding focus and visual interest to meshes.
- **Lecture:** Using the bevel tool to add detail and catch light.
- **Lecture:** Adding and extending the human mesh to interconnect parts.
- **Class Discussion:** Review in-progress of Human Mesh projects
- **Class Discussion:** Competitive analysis papers.

ASSIGNMENTS

- Continue Human Mesh Project.
- Written **Assignment Due:** Competitive analysis paper.

Week 7

LECTURES

- **Class Discussion:** Smoothing to add mesh detail.
- **Class Discussion:** Limitations of smoothing.
- **Class Discussion:** How smoothing can result in soft-looking models.
- **Class Discussion:** Smoothing’s effect on volume.
- **Lecture:** Subdividing the human mesh to create more detailed anatomy.
- **Class Discussion:** Modeling for a smoothed output.

- **Lecture:** Modeling techniques for smoothed meshes.
- **Lecture:** Smoothing in trouble areas, such as the face.

ASSIGNMENTS
- **Reading Assignment:** *Dynamic Anatomy*, pp. 168-189
- **Assignment Due:** Human Mesh project.
- **Assignment:** Begin creation of detailed human anatomy – hands and feet.

Week 8

LECTURES
- **Class Discussion:** Critique of Human Mesh model submissions.
- **Lecture:** Blocking out the hand shape.
- **Class Discussion:** Sculpting high resolution detail versus modeling high resolution detail.
- **Lecture:** Adding detail to the hand.

ASSIGNMENTS
- Continue Hand and Feet models.
- **Reading Assignment:** *Dynamic Anatomy*, pp. 148-167
- **Reading Assignment:** *Dynamic Anatomy*, pp. 190-201

Week 9

LECTURES
- **Class Discussion:** Mesh subdivision techniques.
- **Lecture:** Human hand subdivision.
- **Class Discussion:** Review of mesh subdivision techniques.
- **Lecture:** Placing extra rows and verts to create focused detail.
- **Lecture:** Human hand subdivision.
- **Lecture:** Subdividing the hand to create sharp detail when smoothed.

ASSIGNMENTS
- Continue Hand and Feet models.

Week 10

LECTURES
- **Lecture:** Basic UV unwrapping tools.
- **Lecture:** Applying basic shaders
- **Lecture:** Human foot creation.
- **Class Discussion:** Critique of works in progress.
- **Lecture:** Adding detail to the foot model.

ASSIGNMENTS
- Continue Hand and Feet models.

Week 11

LECTURES

- **Class Discussion:** Review in-progress of Hands and Feet projects
- **Lecture:** Continuing to add detail to hands and feet models.
- **Class Discussion:** Character setup.
- **Class Discussion:** Mesh deformation.
- **Lecture:** Character setup tools.
- **Lecture:** Deformation tools.

ASSIGNMENTS

- Continue Hands and Feet models.
- Prepare assembled model that combines Body Mesh with Hands and Feet models.

Week 12

LECTURES

- **Class Discussion:** Review in-progress of Combined Human Mesh projects
- **Class Discussion:** Critique of final submissions.

ASSIGNMENTS

- **Assignment Due:** Combined Human Body Final Project Assignment

Week 13

LECTURES

- **Class Discussion:** Review of professional work
- **Class Discussion:** Self critique of final submissions.

Week 14

LECTURES

- **Class Discussion:** Review in-progress of Combined Human Mesh projects
- **Class Discussion:** Peer critique of final submissions.

Course Calendar is subject to change *with* notification