STATE UNIVERSITY OF NEW YORK
COLLEGE OF TECHNOLOGY
CANTON, NEW YORK

MASTER SYLLABUS

GAME 230 3D Modeling and Texturing for Games

Suggestion for rename: GAME 230 3D Character Modeling

Created by: Morgan Hastings

CANINO SCHOOL OF ENGINEERING TECHNOLOGY
DECISION SYSTEMS
Fall 2021

A.   **TITLE**:   3D Modeling and Texturing for Games. SUGGESTED: GAME 230 3D Character Modeling

B.   **COURSE NUMBER:** GAME 230

C.   **CREDIT HOURS: (Hours of Lecture, Laboratory, Recitation, Tutorial, Activity)**

     # Credit Hours: 3
     # Lecture Hours: 2 **per week**
     # Lab Hours: **per week**
      Other: (1) two-hour recitation **per week**

     Course Length: 15 **Weeks**

D.   **WRITING INTENSIVE COURSE**: No

E.   **GER CATEGORY:**

F.   **SEMESTER(S) OFFERED:** Spring

G.   **COURSE DESCRIPTION:**

Game 230 is a character modeling class for the gaming industry. Presuming no experience with Maya, students will start with the basics of Maya and photoshop and will create a polygonal body builder character from reference images. Students will learn about simple Forward Kinematic Rigs and build one for the character. In the second half of the semester, they will design and build their own character.

H.   **PRE-REQUISITES/CO-REQUISITES:**

a. Pre-requisite(s): Game 210
b. Co-requisite(s):
c. Pre- or co-requisite(s):

I.   **STUDENT LEARNING OUTCOMES:**

II. *Course Student Learning Outcome [SLO]*	*PSLO*	*GER*	*ISLO*
a. Develop game assets using professional gaming software.	**PSLO 6** Use the design process: Concept, Design, Prototype, Production, Testing and Revision to evaluate, and implement strategies to find a solution to a problem.		5
b. Demonstrate proper design process procedures.	**PSLO 6** Use the design process: Concept, Design, Prototype, Production, Testing and Revision to evaluate, and implement strategies to find a solution to a problem.		5
c. Demonstrate proper testing and troubleshooting techniques for created assets	**PSLO 4** Recognize the underlying principles guiding the relevant visual, audio, interactive, and narrative aesthetics of an animation or a game		2 *[IA]*
d. Examine Current trends in character modeling for games	**PSLO 5** Synthesize trends, theories, movements and advancements in technology in the development of new ideas.		2[IA]

KEY	Institutional Student Learning Outcomes [ISLO 1 – 5]
ISLO #	ISLO & Subsets
1	**Communication Skills** Oral [O], Written [W]
2	**Critical Thinking** *Critical Analysis [CA] , Inquiry & Analysis [IA] , Problem Solving [PS]*
3	**Foundational Skills** *Information Management [IM], Quantitative Lit,/Reasoning [QTR]*
4	**Social Responsibility** *Ethical Reasoning [ER], Global Learning [GL], Intercultural Knowledge [IK], Teamwork [T]*
5	**Industry, Professional, Discipline Specific Knowledge and Skills**

J. **APPLIED LEARNING COMPONENT:**   Yes__X__   No_____

K. % **TEXTS:**
   None

L. % **REFERENCES:**
   Handouts written by teacher

M. % **EQUIPMENT:**
   PC Computer Lab with Autodesk MAYA, Adobe Photoshop.

N. % **GRADING METHOD:** A-F

O. % **SUGGESTED MEASUREMENT CRITERIA/METHODS:**
- Assignments
- Projects
- Participation

P. <u>**DETAILED COURSE OUTLINE**</u>**:**

1. **The gaming industry and character design**
   Roles in the industry, character modeler, concept artist, rigger, environment artist, etc.
2. **Software and hardware usage in games**
3. **Modeling**
   Learn polygonal modeling with an emphasis on subdiv surfaces
   learning all the tools necessary to easily manipulate meshes
   Start immediately modeling the bodybuilder character with image planes
4. **Creating UVs**
   learn the diverse techniques for creating uv maps in Maya
   move and sew, unfold and layout
5. **Rigging**
   Manually create a rig that is compatible with current engines
   smooth binding/rigid binding
   painting weights
6. **Designing a character from scratch with sketches and studies**
7. **Shaders**
   create shaders for characters with diffuse, normalmaps and alpha channels
8. **Texturing**
9. keeping libraries, learning to photograph textures, modifying existing textures

Q. <u>**LABORATORY OUTLINE**</u>**:**
<u>None</u>

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