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MINNESOTA SCHOOL OF BUSINESS
 GLOBE COLLEGE
 TECHNICAL COURSE SYLLABUS

COURSE NUMBER: **GD200** COURSE TITLE: ANIMATION FOR GAME DEVELOPMENT II
 COURSE LENGTH: 12 WEEKS CREDIT HOURS: 4
 PREREQUISITES: GD155 CONTACT HOURS: 60 (LECTURE 20/ LAB 40)

TEXT: GAME MODELING USING LOW POLYGON TECHNIQUES, Chad and Eric Walker, 2001, Charles River Media, INC.
ISBN: 1-58450-055-7

MODELING A CHARACTER IN 3DS MAX, Paul Steed, 2002, Wordware Publishing Inc.
ISBN: 1-55622-815-5

MASTERING THE ART OF PRODUCTION WITH 3DS MAX 4, Jason Busby, Michele Bousquet, 2002, Thomson Learning.
ISBN: 0-766-834700

COURSE DESCRIPTION: This course will teach students the application creating game-ready, low polygon models and characters to use in computer games. The areas of study include modeling with primitives, using extrusions, mirroring and reusing models, using a high polygon mesh as a low polygon template, applying UVW mapping coordinates, and optimization techniques. The course will also cover UI development and texturing.

OBJECTIVES: Upon completion of this course, the student will be able to:

1. Utilize low polygon techniques.
2. Create sophisticated game-ready 3d models from initial sketch to final render.
3. Simulate realistic materials and textures using the Material Editor.
4. Execute UVW mapping.
5. Utilize the theory of optimization techniques.
6. Explain a basic understanding of MAX Script.
7. Create skeletal structure, IK controls, and facial morph targets.
8. Utilize the properties of lights and the aesthetics of three point lighting and shadows.
9. Demonstrate the modeling of multiple objects in a scene.
10. Demonstrate the skills gained in the course to effectively present game-ready artwork.

COURSE OUTLINE:

Topics & Class Activities	Required Reading
Week 1	
Concept Art	Game Modeling
Sketching Basics	Chapters 1-3
Sketching Characters	Pages 1-33
Sketching Vehicles	
Design Fundamentals	Modeling a Character
Callisto Designed	Chapters 1 & 2
	Pages 3-33

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Topics & Class Activities

Required Reading

Week 2

Introduction to Low Polygon Techniques
3D Modeling Made Easy

Game Modeling
Chapter 4
Pages 37-42

Modeling
Guide Objects
The Head and Face

Modeling a Character
Chapters 3 & 4
Pages 39-110

Modeling the Remote Control

Art of Production
Chapter 2
Tutorial 2.1-2.4

Week 3

Modeling the Characters
Human Characters

Game Modeling
Chapter 5
Pages 43-153

Hair

Modeling a Character
Chapter 5
Pages 112-137

Modeling the Alien

Art of Production
Chapter 3
Tutorial 3.1-3.4

Week 4

Modeling the Characters
Horse

Game Modeling
Chapter 5
Pages 153-184

Torso
Legs

Modeling a Character
Chapters 6 & 7
Pages 139-225

Week 5

Modeling Vehicles
Sci-Fi Van
Car
Mech Robot

Game Modeling
Chapter 6
Pages 185-238

The Back, Neck & Shoulders

Modeling a Character
Chapter 8
Pages 228-279

Modeling the Rover

Art of Production
Chapter 4
Tutorial 4.1-4.6

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Topics & Class Activities

Required Reading

Week 6

U.V. Mapping Coordinates
Mapping Characters

Game Modeling
Chapter 7
Pages 241-265

The Arms
The Boots

Modeling a Character
Chapters 9 & 10
Pages 282-348

Introduction to MAXSCRIPT

Art of Production
Chapter 5
Tutorial 5.1-5.6

Week 7

U.V. Mapping
Vehicles

Game Modeling
Chapter 8
Pages 267-280

Optimizing the Mesh

Modeling a Character
Chapter 11
Pages 350-422

Technical Setup for the Rover

Art of Production
Chapter 6
Tutorial 6.1-6.4

Week 8

Textures
Creating Textures

Game Modeling
Chapter 9-11
Pages 283-334

Mapping the Head

Modeling a Character
Chapter 12
Pages 426-483

Skeletal Setup for the Alien

Art of Production
Chapter 7
Tutorial 7.1-7.5

Week 9

Putting it all together
Mapping Characters

Game Modeling
Chapter 12
Pages 337-345

Mapping the Rest

Modeling a Character
Chapter 13
Pages 486-525

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Topics & Class Activities

Required Reading

Week 10

Alien Skinning and Deformation Setup
Alien UI Control System
Camera Tracking

Art of Production
Chapters 8-10
Tutorials 8.1-8.4, 9.1-9.2,
10.1-10.2

Week 11

Texturing and Lighting
Animation and Rendering

Art of Production
Chapters 11 & 12
Tutorials 11.1-11.5, 12.1-12.3

Week 12

Presentation of Design Renderings
Presentation of Prototype Game Artwork and Character Designs
Final Exam

INSTRUCTIONAL METHODS: Class sessions will consist of instructor lectures, demonstrations, critique sessions, process and planning exercises, and assignments. Students will be assigned reading from required texts and instructor provided handouts. Classes will consist of 10 hours of lecture. Students should expect research, writing and presentation assignments.

EVALUATION METHODS:

Grades are an indicator of overall performance, achievement and participation. Students are responsible for completing all course requirements on time to receive credit. Final projects will be presented during finals week.

Written projects / reports	300
Testing	200
Final Project	300
Attendance and Participation	200

The final grade for the course is based on an accumulation of points in each of the above areas and weighted accordingly. A total of 1000 points are possible. These points are based on the following percentages:

100-90%	A	
89-80%	B	
79-70%	C	
69-60%	D	
59% and lower		N/C

SUPPLIES REQUIRED:

- Notebook
- Presentation Materials (3-ring binders)
- Pens or pencils