Syllabus: Animation II

Instructor: _____

Office hours: _____

Class hours: _____

Course Description

This course is a continuation of Animation I. Students will be introduced to methods of integrating lighting, texture mapping, rendering and the finer details of motion graphics to create 3D computer animated solutions. Techniques of concept development, story boarding, project planning and script writing will be applied during the creative process of generating a computer-animated sequence.

Major Instructional Areas

1. Low-poly character models
2. Rigs for 3D character models
3. Skinning techniques
4. Character animation in 3ds Max
5. Facial Animation in 3ds Max
6. Demo reel/portfolio development

Course Objectives

1. Create an accurate model using reference images inside 3ds Max.
2. Model a character using polygon modeling techniques.
3. Demonstrate the use of modifiers on a 3D character model.
4. Create a 3ds Max bone rig for a 3D character model.
5. Demonstrate the ability to rig a character using FK and IK techniques.
6. Develop an easily animated character rig using different techniques.
7. Demonstrate the correct “skinning” techniques for a 3D character.
8. Animate a rigged character.
9. Develop a complete character animation in 3ds Max for the demo reel/portfolio.

SCANS Objectives

SCANS is an acronym for Secretary's Commission on Achieving Necessary Skills. The committee, created by the National Secretary of Labor in the early 1990s, created a list of skills and competencies that the committee feels are necessary for employees to function in a high-tech job market.

1. Interpret and creatively communicate written information in a 3D design, model, or animation rendering.
2. Successfully participate as a contributing member of a team.
3. Apply the specific technology of a software program to communication of design ideas.
4. Demonstrate problem-solving skills by choosing an appropriate solution to a problem.
5. Evaluate methods of animation with the appropriate software.
6. Demonstrate creative thinking and imaginative use of computer software.

Course Outline

Note: All graded activities, except the Project, are listed below in the pattern of <Unit Number>.<Assignment Number>. For example, Lab 3.1 refers to the 1st lab activity in Unit 3.

Unit	**Activities**
1— Modeling the Body	• Content Covered: *Model, Rig, Animate:* o Chapter 1, "Modeling the Body" • Labs: 1.1
2— Modeling the Head	• Read from *Model, Rig, Animate:* o Chapter 2, "Modeling the Head" • Labs: 2.1 • Quizzes: 2.1
3— Bones	• Read from *Model, Rig, Animate:* o Chapter 3, "Bones" • Labs: 3.1
4— Rigging the Bones	• Read from *Model, Rig, Animate:* o Chapter 4, "Rigging the Bones" • Labs: 4.1 • Quizzes: 4.1
5— Skinning	• Read from *Model, Rig, Animate:* o Chapter 5, "Skinning" • Labs: 5.1
6— Animation	• Read from *Model, Rig, Animate:* o Chapter 6, "Animating the Body" • Labs: 6.1 • Quizzes: 6.1

Unit	Activities
7— Facial Animation	• Read from *Model, Rig, Animate:* o Chapter 7, "Facial Animation" • Labs: 7.1
8— High-Poly Characters	• Read from the ITT Tech Virtual Library> Main Menu> Books> Books 24x7> *Polygonal Modeling: Basic and Advanced Techniques:* o Chapter 5, "Human Project: Male Head" o Chapter 6, "Human Project: Male Body" ***or*** • Read from the ITT Tech Virtual Library> Main Menu> Books> Books 24x7> *Polygonal Modeling: Basic and Advanced Techniques:* o Chapter 7, "Human Project: Female Head" o Chapter 8, "Human Project: Female Body" • *Backup reading option:* ITT Tech Virtual Library> Main Menu> Books> Books 24x7> *3ds max 6 Animation and Visual Effects Techniques*: o Chapter 5, "Creating the Generic Man Character" • Labs: 8.1 • Quizzes: 8.1
9— Final Project	• Read from the ITT Tech Virtual Library> Main Menu> Books> Books 24x7> *Polygonal Modeling: Basic and Advanced Techniques:* o Chapter 5, "Human Project: Male Head" o Chapter 6, "Human Project: Male Body" ***or*** • Read from the ITT Tech Virtual Library> Main Menu> Books> Books 24x7> *Polygonal Modeling: Basic and Advanced Techniques:* o Chapter 7, "Human Project: Female Head" o Chapter 8, "Human Project: Female Body" • *Backup reading option:* ITT Tech Virtual Library> Main Menu> Books> Books 24x7> *3ds max 6 Animation and Visual Effects Techniques*: o Chapter 5, "Creating the Generic Man Character"
10— Final Project (continued)	• Read from the ITT Tech Virtual Library> Main Menu> Books> Books 24x7> *Polygonal Modeling: Basic and Advanced Techniques:* o Chapter 9, "Human Project: Anatomy Details" • Final Project
11— Course Overview and Final Exam	• Course Review • Final Exam

Instructional Methods

The Animation II course is designed to promote teaching strategies that support the outcomes described in the course objectives. Your instructor will use a variety of instructional methods to facilitate your learning inside as well as outside the classroom.

Your instructor should make available to you lesson plans, course materials, notes, and resources before the theory portion of the class. The course is composed of both theory and laboratory components. Your progress will be regularly assessed.
The skills and concepts taught in Animation II are fundamental to success in all future multimedia-based courses within your program in the School of Drafting and Design. It is therefore imperative for you to come to each class session prepared by having read the assigned textbook chapters. You must complete all quizzes and laboratory assignments to ensure full comprehension of the subject matter. A final project requires you to prepare a demo reel/portfolio, which is a major element in securing work in the multimedia field. A final exam will be given at the end of the course to assess your understanding of the content material.

Instructional Materials and References

Student Textbook Package

- Bousquet, Michele. *Model, Rig, Animate.* Indianapolis: Pearson Custom Publishing, 2008. CD-ROM included in the textbook package.

Other Required Resources

In addition to the student textbook package, the following is also required in this course:

- Russo, Mario. *Polygonal Modeling: Basic and Advanced Techniques*. Plano, TX: Wordware Publishing, 2006.
  This book is available electronically in the ITT Tech Virtual Library. To locate it, go to: ITT Tech Virtual Library> Main Menu> Books> Books 24x7 and search by title.

Equipment and Tools

The theory portion of this course should be taught in a classroom. The classroom should have the following:

- A projection system
- Tables, chairs, and a whiteboard
- Instructor node with the following configuration:
  - Desktop computer with Windows XP SP2, or Windows Vista operating system
  - Pentium IV or higher processor
  - CD-ROM drive

- LAN connection
- 3ds Max software installed and configured

The laboratory portion of this course must be taught in a standard computer lab, and should have the following:

- Local area network (LAN)
- Desktop computer with Windows XP SP2 or Windows Vista operating system
- Pentium IV or higher processor
- CD-ROM drive
- 3ds Max software installed and configured

References

ITT Tech Virtual Library

Log on to the ITT Tech Virtual Library at http://www.library.itt-tech.edu/ to access online books, journals, and other reference resources selected to support ITT Tech curricula.

Books

You may click "Books" or use the "Search" function on the home page to find the following books.

ITT Tech Virtual Library> Main Menu> Books> Books 24x7

- Derakhshani, Dariush, Randi Munn, and Jon McFarland. *Introducing 3ds Max 9: 3D for Beginners.* Indianapolis, IN: Wiley Publishing, Inc., 2007.
- Murdock, Kelly L. *3ds Max 9 Bible.* Indianapolis, IN: Wiley Publishing, Inc., 2007.

Periodicals

You may click "Periodicals" or use the "Search" function on the home page to find the following periodicals.

ITT Tech Virtual Library> Main Menu> Periodicals> ProQuest>

- Animation World Magazine
- Computer Graphics World
- Game Developer

Other References

The following web sites may be found **outside** of the ITT Tech Virtual Library.

- 3D Total: The CG Artist's Homepage
  http://www.3dtotal.com
  Galleries, tutorials, forums, and job board for CG artists
- CG Channel
  http://www.cgchannel.com
  Forum for individual or corporate demo reels, discussion and job board for CG artists
- 3DM3 Computer Graphics Source
  http://www.3dm3.com
  Worldwide community of digital artists with tutorials, videos, galleries
- Society of Digital Artists
  http://www.cgsociety.org
  Membership site for the CGSociety, includes Wiki, newsletter
- Autodesk: Area Support Forums
  http://area.autodesk.com/
  News, software trials, tutorials, discussions from software vendor Autodesk

All links to web references outside of the ITT Tech Virtual Library are always subject to change without prior notice.

Course Evaluation and Grading

Evaluation Criteria Table

The final grades will be based on the following categories:

CATEGORY	WEIGHT
Quizzes	20%
Labs	35%
Final Project	30%
Final Exam	15%
Total	**100%**

Note: Students are responsible for abiding by the Plagiarism Policy.

Grade Conversion Table

The final grades will be calculated from the percentages earned in the course, as follows:

A	90–100%	4.0
B+	85–89%	3.5
B	80–84%	3.0
C+	75–79%	2.5

C	70–74%	2.0
D+	65–69%	1.5
D	60–64%	1.0
F	<60%	0.0

(End of Syllabus)