Common Course Outline
MULT 205
Introduction to 3D Modeling
3 Semester Hours

The Community College of Baltimore County

Description

MULT 205 – 3 Credits – Introduction to 3D Modeling introduces students to a 3D graphics program. Students learn to create and animate 3D landscapes and objects. **3 credits; 2 lecture hours per week; 2 laboratory hours per week**

Prerequisite: CGVC 120 or MULT 121 or consent of the program coordinator

Overall Course Objectives

Upon successfully completing the course students will be able to:
1. create realistic landscape scenes;
2. create other-world landscapes;
3. create realistic objects;
4. animate landscape scenes;
5. animate realistic objects;
6. alter the diffusion, secularity, reflectivity and refraction of objects in order to make realistic and other-world scenes;
7. apply various camera angles and positions in order to create scenes and objects; and
8. alter the environment of a scene in order to make it appear more life-like.

Major Topics

I. Overview
- a. The working window
- b. Preset Libraries
- c. The Menu Bar
- d. Displaying a scene
- e. Selecting objects
- f. Undoing operations

II. Animation overview
- a. The animation process
- b. Animation controls
- c. Time mapping
- d. Animating materials
- e. Storyboarding

III. Creating Objects
- a. Primitive vs. procedural objects

b. Object placement
c. Creating planes
d. Alpha channels
e. Boolean object

III. Creating Skies
a. Sky and fog palette
b. Shadows
c. Ambient color
d. Clouds
e. Working with the sun
f. Working with the moon
g. Other environmental effects

IV. Materials
a. Diffusion
b. Ambience
c. Secularity
d. Metallic

V. Textures
a. Color, Noise, Phase, Filtering
b. Deep texture editor

VI. Arranging Objects
a. World space, object space, and camera space
b. Coordinate systems
c. Transforming objects
d. Resizing, rotating, positioning and aligning objects

VII. Editing Objects
a. Editing object attributes
b. Converting objects

VIII. The Camera and Lights
a. Lights
b. Positioning the view of a scene
c. Setting up lights

IX. Animating
a. Key event animation
b. Advanced motion lab
c. Motion paths
d. Tracking objects
e. Animating the camera
f. Animating materials
g. Animating skies

Course Requirements

Grading/exams: Grading procedures will be determined by the individual faculty member but will include the following:
One (or more) complex, textured model

One complex, fully textured environment or virtual world
One Test, Exam, and/or Quiz
Comprehensive Final Exam, Comprehensive Final Project or combination thereof

Other Course Information

This course is a course in Simulation and Digital Entertainment (SDE) and Multimedia Technology.

This course is taught in a computerized environment.

Individual faculty members may include additional course objectives, major topics, and other course requirements to the minimum expectations stated in the Common Course Outline.

Date Revised: 04/17/08