

3DS MAX for Games

- Module II -

By
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(Lesson Plan)

Lesson 1: Getting Started and Creating Error Free Models

Textbook: Chapters Forward (X-XXVI) 1-2 (pgs: 3-44)

A quick overview of how the reading from the text and the course videos work together: The text book is “*Creating the Art of the Game*”, (Matthew Omernick ISBN: 0-7357-1409-6). The book fits the class well, but does not cover the curriculum topics in the same order. There are many subjects and concepts covered in the class videos not covered in the text, so you will need to use both resources as you move through the class. There is also a recommended text: *Video Game Art*, (Todd Gantzer ISBN: 1-4018-4066-3). I like the recommended text quite a bit, but it isn’t necessary, only optional. The videos are the main source of information for the course. The videos are mostly standalone skills that are meant to be built upon each other and as the weeks pass the videos will focus more on combining skills and processes rather than single modifiers or tools. The first few weeks will focus mainly on individual processes in MAX that at time may feel disconnected from the main project, but will show up in later videos as necessary skills you’ll need to build larger objects with. Each lesson plan will list the videos to be viewed that week. Most videos are meant to be viewed first, and then reviewed while the student uses the MAX software to recreate the outcome. While most videos have accompanying files to get you started (and in many cases show you results along the way and a final outcome), some videos, especially in the first two weeks do not have accompanying MAX files. If the video does not have a corresponding MAX file it is probably because the subject matter in the video deals with interface or basic properties of the program that don’t require a .max file. To get credit for passing the class you will need to complete 3 projects. These projects are:

- 1. Fix a provided mesh that has errors and make it error free.**
- 2. Create a simple low poly game asset with textures (the crate).**
- 3. Model and texture a creature or animal mesh from your own concept.**

The main videos that walk you through these 3 projects are in bold on your calendar and on this lesson plan.

Each week I will outline the reading and the videos here in the class plan. Use this outline to keep track of your progress through the class. The videos are numbered to help me organize the material, although the numbers are not that important to the student in general, you can certainly use the numbering to organize the material on your end as well. You will find all the material listed below on the discs provided by The Game Institute.

Introduction:

Tutorials 1029, will introduce you to the class and general issues you may run into along the way. All 3 projects are covered in this video as well. You’ll get a good idea of what you’ll be venturing into while you watch this video.

Tutorial 1030 and 1033 will reintroduce you to box modelling. The video will cover a few processes not covered in the first class, but is mostly meant to remind you where all the buttons and tools are for basic box modelling.

Tutorial 1036 will cover how to divide those pesky edges so you can get the details right where you want them in your meshes. Dividing edges is something you’ll need to do a lot of in the coming weeks...so practice now after watching the video.

Once you’ve figured out how to make new edges you’ll no doubt want to turn them to work nicely within your models geometry. Video 1037 will show you how to do this.

Video 1039 will show you how to fix holes in your model. Even the best modeled mesh will inevitably have holes, either from broken edges, flipped polygons or double vertices that need welding. Get good at fixing meshes and the first project due soon will be a breeze.

1044 will quickly show you how to use “alt x” to ghost your currently selected object. This trick is great for seeing into the model and figuring out where the errors are hiding.

1045 and 1046 will guide you through the first project. You’ll need to correct the provided mesh so it shows as “no errors”. Although it is possible for some engines to load models with some open seams...it isn’t a good habit to get into. These videos will show you how to find errors and fix them quickly. Get good at this process and modelling your own creatures and props will be much easier.

A few supplemental videos are included in this first lesson. Most of these are repeats from the first class just to remind you of some of the more complex issues you may face right off the bat. If you’re comfortable with MAX so far, you may want to skip the supplemental videos.

Here is a list of the videos and files that make up the first lesson:

- 1029_ Intro_ Preview of Projects
- 1030_ Tutorial: Introduction to Low Poly Modeling
1030.max
1033_After.max
- 1033_ Tutorial: Box Modeling 01 (Building in MAX.doc)
1033.max
- 1036_ Tutorial: Dividing Edges.
1036.max
- 1037_ Tutorial: Turning Edges
1037.max
- 1039_ Tutorial: Fixing Holes
1039 .max
1039_B.max
- 1044_ Tutorial: Alt X to Ghost and Freezing Objects
1044.max
- 1045_ **Project01**_Tutorial: STL.
1045.max
- 1046_ **Project01**_Error Check
1046_Fix for project 01.max
- Sup_BasicMAX01
- Sup_BasicMAX02
- Sup_Box Modeling a Building
- Read: Building in MAX.doc

Key Topics covered in the videos:

- Introduction to the class
 - Introduction to 1st project (error free mesh)
- Introduction to low polygon modelling techniques
 - Avoiding problems
 - Using the basic interface in MAX
 - View port controls and settings
 - Panning, rotating and zooming within the view ports
 - View port menus
 - The Quad Menu
- Box Modeling and Edge Modeling.
 - Creating complex structures using basic modelling tools
 - Edge divide, connect, seeing and turning edges
 - Selection techniques
 - Capping holes
 - Correcting holes and errors
- Using STL check and finding split edges.
 - How to find errors
 - What is an error
 - Fixing errors in meshes and creating error free meshes.
- Boarder extrudes
- Alt X (ghost mode)

Projects:

- Correct the provided mesh of all errors.
 - Use STL modifier to find errors.
 - Correct errors by using various edit poly and edit mesh techniques.

Recommended Study Time: 1-2 weeks

Lesson 2: Modeling Organic objects I

Textbook: Chapter 6 (pgs: 131 – 156)

Also read: Real World Wear and Tear.doc

Doc file 1 covers how to make textures have the characteristics of real surfaces.

Game Textures Now.doc

Doc file 2 Doc file covers adding wear and tear details to your texture maps to make them look more realistic. The Document will cover how these processes are done in Photoshop and how to decide what details to add.

In this lesson we will be continuing to explore the new modelling tools covered in module 2. We'll also be moving into more complex issues like UV mapping and curved surface modelling, which you'll need to master soon to get a good looking creature model later in the class. We'll be bumping around in the modifiers as well, picking up a few new ones that will make life a little easier.

You'll also find some of the videos are labelled with a prefix of "sup". Any video with the prefix "sup" is a supplemental video and will usually be listed at the bottom of the video list. Supplemental videos are videos that may have originated in module 1 (for review) or have been added because I thought you'd like the extra information. A few supplemental videos are new and cover topics like creating cloth with the garment maker modifier and rendering turnarounds that you may find useful if they apply to the particular model you're working on. Think of supplemental videos as free extra material added to the class.

2030 and 2033 pick up with more box modelling skills. By now we're tackling more complex objects, each is like a mini puzzle and you'll need to use the box modelling tools and edit poly tool set to solve how to make the objects.

2038 deals with those sneaky Booleans. You'll remember from the first class that Booleans can be extremely helpful, but also very frustrating to use. This video will walk you through the basics and pick up where module 1 left off.

2045 will cover how to utilize edge loops and make selecting edges much easier. You'll be selecting a lot of edges along the way...so master the process.

2048 will show you how to make any angle on a polygon model look sweet. The secret is in chamfering the edges to make for a surface that can catch the light. From now on your models will instantly look better!

2050 is all about detaching polygons from existing meshes. Detaching polygons is a great way to make armour and details not easily made any other way.

Make sure to check out the supplemental videos (there are some good ones in this lesson, especially the 3 "modelling tricks" videos). Also check out the 2 provided doc files that deal with textures and the current state of UV mapping.

Here is a list of the videos and files that make up the second lesson:

- 2030_Tutorial: Box Modeling 02
 - 2030_A.max
 - 2030_B.max
- 2033_Tutorial: Box Modeling 03
 - 2033_A.max
 - 2033_B.max
- 2038_Tutorial: Boolean Techniques (Fixing Errors)
 - 2038_A.max
 - 2038_B.max
- 2045_Tutorial: Edge/Loop Copy Extrude
 - 2045.max
- 2048_Tutorial: Chamfer (In Edge Mode)
 - 2048_A.max
 - 2048_B.max
- 2050_Tutorial: Detach poly
 - 2050_A.max
 - 2050_B.max
- Sup_Merging and Saving.
 - _ChristiansTank7_BeforeMerge.max

_ChristiansTank7_Complete.max
_ChristiansTank9.max
Sup_Merge_is now complete.max
Sup_Merge_this scene.max

- Sup_ModelingTricks_01_Connect_TargetWeld_Cut
- Sup_ModelingTricks_02_Chamfer_Bridge_Lattice
- Sup_ModelingTricks_03Bevel_Create Poly_SoftSelection
- Game Textures Now.doc
- Real World Wear and Tear.doc

Key Topics:

- Organic modelling techniques
 - Chamfer edges
 - Edge loop and ring
 - Bridge
- Advanced box modelling
 - Using symmetry
- Intro to UVW Unwrapping processes
- Smoothing group controls
- Boolean techniques
 - Fixing boolean errors.
- Vertex weld, edge weld and target weld
 - Insert vertex
- Cut and slice
- Clone (both polygons and objects)
 - Detaching polygons
- Saving scene material

Projects:

- No new projects due for this lesson.

Recommended Study Time: 1 week

Lesson 3: Modeling and UV Layout Techniques

Textbook: Chapter 3 (pgs: 45-68)

In Lesson 3 we'll start to tackle the complex and sometimes mysterious process of UV mapping (and all its forms). Hang on because there will be quite a few videos that deal with the UV mapping editor, pelt mapping, combing multi sub objects with the editor and all the various ways to make textures look good on a model. Here's some more of what we'll be looking at in this lesson.

3020: Another video from module 1, we review the fancy resource collector so your scene files will always load correctly (for me and you)

Ever wonder how you get your concept drawing into the scene so you can use it as a template to model from? Video 3036 will show you all the skills so you can have your own concepts right there in the scene to start building from.

3046 shows you how to UV map a simple prop. The basics will be covered here...get used to the UV editor, you'll be seeing a whole lot of it in future videos. 3047 will show you how to get a good looking texture to use in the editor.

3048 and 3049 will introduce you to specular maps and normal maps. Both are used in current engines quite often and you'll probably want to utilize both in your creature and prop objects later in the class.

3050 will tackle the mystery world of ambient occlusion maps. Ever wonder what ambient occlusion maps are? The video will not only decipher what AO maps are, but show you how to make one.

The 2055 series of videos will completely walk you through how to make a simple prop. The videos will tackle a wooden coke crate, but your prop for project 2 can be whatever you want it to be (I'd suggest not getting too complex though). The series is long and everything is done in real time (no time cuts) so you'll see every step along the way. Feel free to use the fast forward, you won't hurt my feelings.

Are you feeling more comfortable with MAX now? You should be, if not consider going back and looking over some of the videos...you'll need to be pretty good with MAX to tackle the final project that starts soon.

Here is a list of the videos and files that make up the third lesson:

- 3020_Tutorial Resource Collector
3020.max
- 3036_Tutorial: Lining up Scene File with Concepts
3036.max
- 3046_Tutorial: Layout the UV's of a Simple Prop
3046_A.max
3046_B.max
- 3047_Tutorial: Simple Prop Diffuse Texture
3047_B.max
- 3048_Tutorial: Simple Prop Specular Map
3048_A.max
3048_B.max
- 3049_Tutorial: Simple Prop Normal Map
3049_A.max
3049_B.max
- 3050_Tutorial: Simple Prop Ambient Occlusion.
3050_A.max
3050_B.max
- 2055_Project02_Create a Medium Polygon Crate 01
2055_A.max (A-H)
- 2055_Project02_Create a Medium Polygon Crate 02
- 2055_Project02_Create a Medium Polygon Crate 03
2055_FINAL.max
2055_CameraLighting.max
- Sup_Using Checker Templates or Shaders.
Sup_Using Checker Templates or Shaders.max

Key Topics:

- Multi sub objects (and working with UVW Unwrap)
- UVW Unwrap advanced techniques
 - UV layout choices
- Box modelling a simple prop
 - Working with low polygon structures
 - Cutting and designing details within low poly structures
 - Working with concepts and design images within the scene.
- Using checker templates to approximate UV scales.
- Saving scene file assets properly
- Creating different texture types that can export to game engines
 - Ambient occlusion maps
 - Specular maps
 - Diffuse maps
 - Normal maps

Projects:

- Create a medium polygon crate (or any other prop you can find reference for that interests you)
See videos: 2055_Project02_Create a Medium Polygon Crate 01-03
Reference material is provided for a simple wooden crate, but you can choose your own prop reference if you like (don't choose anything too complicated).

Create a low poly count prop using the videos provided as a guide. Prop needs to be error free and have textures applied using UVW Unwrapping techniques.

Recommended Study Time: 1-2 weeks

Lesson 4: Modeling a Prop and Skin Layouts (Project 03 intro)

Textbook: Chapters 4-5 (pgs: 69-130)

Also read: Textures from Concept to Game.doc

Doc file covers step by step how to create realistic surfaces. The doc also covers various texture types, UV layouts for various model types, how to collect and archive reference material and generation of sprites for pre-rendered games. Whew! That is a lot of stuff! Take your time with this Doc file...there is a lot here to read.

After modelling the prop from the last lesson you should be in pretty good shape and getting a lot more comfortable in MAX. From here on out we're going after the creature model and all these curved surfaces that come along with it. You probably won't see another 45 or 90 degree angle for a long time! 4025 will introduce you to the final (and largest) project in the class. The creature model will test your modelling and texturing abilities. Spend some time on your concept and start off slow with the modelling. It is pretty common for students to start off fast only to discover problems with their mesh later down the road and start over. Watch the videos first (at least a few lessons worth) then dive into your first character model.

4030, 4031 and 4032 all go into good detail on how to model organic (creature parts) meshes. Start with your concept and build yep from single polygons or basic box shapes. The videos cover not only basic edge extrudes but also how to incorporate surface modifiers and use other primitive objects as starting points. You'll cover how to make a horse body, legs and neck all in these first 3 videos. Use the concepts covered here and apply them to your own creature concept.

It may not seem like a lot of videos this lesson, but the videos are long and contain a lot of information. Take notes and kick back with some popcorn...modelling character and creatures can take a while! Remember the main videos that deal with project 3 are in bold on your calendar. They are also listed below so you can easily see which ones deal directly with project 3.

Here is a list of the videos and files that make up the fourth lesson:

- 4025_Tutorial: Intro to Creature Model
- 4030_ **Project03**_: Modeling a Complex Object 01 (horse leg)
4030_A.max (A-G)
- 4031_ **Project03**_: Modeling a Complex Object 02 (horse body)
4031_A.max
4031_B.max
- 4032_ **Project03**_: Modeling a Complex Object 03 (horse neck)
4032_A.max
4032_B.max

Key Topics:

- Understand the principles behind making maps optimized for unwrapping and UV layouts
 - Various skin layout techniques
 - Differences in layouts for normal maps and non-normal mapped objects
 - Creating and applying a generic surface material
 - Adding realism to maps
- Modeling a complex object for use in a game engine

Projects:

- Model a creature or animal using various edit poly techniques. Apply a texture skin to the model using various UV mapping techniques. Explore various types of maps that can be exported to most current game engines.
 - See:
 - 4030_Project03_: Modeling a Complex Object 01 (horse leg)
 - 4031_Project03_: Modeling a Complex Object 02 (horse body)
 - 4032_Project03_: Modeling a Complex Object 03 (horse neck)
 - 5024_Project03_: Welding Anatomy
 - 5025_Project03_: Modeling a Complex Object 04 (Horse Head)
 - 5026_Project03_: Modeling a Complex Object 05 (Ears and Horns)
 - 5027_Project03_: Skin Layout
 - 5028A_Project03_: Pelt Mapping (No Normal Maps)
 - 5028A_Project03_: Pelt Mapping (No Normal Maps)
 - 5028B_Project03_: Pelt Mapping (With Normal Maps)
 - 5029_Project03_: Exporting the UV Layout
 - 5030_Project03_: Establish Material

Recommended Study Time: 1-3 weeks (depends on how complex your creature or animal is)

Lesson 5: Modeling a Creature Character. (Project 03 Continued)

Textbook: Chapter 10 (pgs: 221 – 246)

Also read: Flare Masks.doc

This Doc covers basic masking and alpha techniques

Detail Sheets.doc

Doc. Covers time saving processes for texture map creation and generic materials.

We're charging ahead on the creature mesh at this point. In this lesson you'll tackle complex modelling issues like ears and the head. You'll be dealing with anatomy and making muscle structures that look good in even with few polygons to define the form. You'll be in the UV editor quite a bit as you start to develop the final texture for your creature as well. There is a whole lot of info in these videos. Don't be surprised if it takes a few weeks to go over all of them. Lesson 5 is the longest of this module...so take your time.

Video 5024 will guide you through how to connect different body parts and make the seams fit together well.

5025 and 5026 will continue with our creature and walk you through making the head, ears and horns using edge extrudes and more box modelling tricks.

5027 tackles the skin layout. You may want to jump ahead and look at videos 5028A and 5028B which deal with using normal maps and how normal maps can affect the UV layouts. It gets a little tricky here and your best bet is to decide if you'll be using normal maps on your final creature now (you don't have to use normal maps to get full credit). If you decide to use normal maps please view video 5028B before doing any UV layouts...think of this as a fork in the road and you'll have to decide which way you want to go before proceeding. Decide now! Normal maps or no normal maps!

5029 will walk you through the handy process of exporting your UV layout to Photoshop or any other 2D program to start painting your textures. Veerryyy helpful!

Video 5030 is a beast of a video and covers all the final steps in making the final project look good. You may want to divide this video up into a few viewings. If you want to add bipeds to your model in order to pose it the video for using bipeds is a supplemental video in week 9 (5030 finishes with a completed biped rig installed)

Video 5033 will continue to deal with masks and alpha channels so you can get those nifty translucent or masked details on your model (like hair, fins or butterfly wings or plants.)

Here is a list of the videos and files that make up the 5th lesson:

- 5024_ **Project03**_ : Welding Anatomy
5024_A.max (A-C)
- 5025_ **Project03**_ : Modeling a Complex Object 04 (Horse Head)
5025_A.max (A-F)
- 5026_ **Project03**_ : Modeling a Complex Object 05 (Ears and Horns)
5026_A.max (A-C)
- 5027_ **Project03**_ : Skin Layout
5027_A.max(A-C)
- 5028A_ **Project03**_ : Pelt Mapping (No Normal Maps)
5028_A.max(A-C)
- 5028B_ **Project03**_ : Pelt Mapping (With Normal Maps)
5028B_01.max (01-05)
- 5029_ **Project03**_ : Exporting the UV Layout
5029.max
- 5030_ **Project03**_ : Establish Material
5030_A.max (A-E)
Goat Biped01.max
Goat Biped02.max
- 5033_ Tutorial: Masks and Alpha Channels
5033.max
5033_Plants.max

Key Topics:

- Creating realistic texture skins for character models
 - Exporting UV layouts to Photoshop.
- Making use of different map types that can export to game engines
 - Opacity slots
 - Masks
 - Alpha Channels.
 - Normal Maps (normal map type)
 - Specular Maps
 - Diffuse maps
- Mapping basics
 - Matching seams in UV unwrap
 - Correcting seams using various softwares.
 - Matching scale in the layout (checker maps)
 - Specular settings
 - Opacity settings and maps
 - Bump maps and settings

Projects:

- No new projects due for this lesson.

Recommended Study Time: 1-2 weeks

Lesson 6: UV's and Texture Types

Textbook: No reading from the text this week

Lesson 6 delves into advanced processes of some of the subjects already covered. We'll start off by covering one of the most asked questions from the first module: How do you keep UV coordinates preserved on a model if you want to continue working on the mesh? You'll get the answering video 6025. We'll cover some simple fun prop making with plants and rocks (actually more interesting than is originally sounds). We'll also be spending a few videos with normal mapping and covering the details of how to make your normal maps stand out. I've also included a supplemental video on creating normal maps in a software package called "Mudbox 1.0". Mudbox is

easy to use and great for adding anatomical details to character meshes and it can export normal map information. Check out the video if you'd like to see different software other than MAX for a change of pace.

6025 covers how to preserve UV layout information on models that have already had their UV maps put into place. In a perfect world you would always want to complete the model before attempting to set up the UV map information, but we all know we don't live in a perfect world! It happens most often when we make a high poly model, apply the textures, and then need to go back and down rez the original model to a lower poly count...you'll be glad you have this video if you ever need to go that route.

Videos 6026A and 6026B will cover how to make some simple environmental objects to use in the final creature render. Remember you don't have to include any environmental objects or scene elements to the final render, but it does make a good looking model look a little better. Both plants and rocks are easy to make, the video will walk you through the process I use to make both.

6028 will define the differences between specular, diffuse, bump and normal maps. You may not need this video at this point if you've done the reading. Check it out and see if it is worth your time first.

6032 is a new Nvidia normal map video (different than the first module). The Nvidia plugin is a free plugin that you can download from www.nvidia.com. The plugin allows you to create normal maps within Photoshop and export them to MAX. The plugin is easy to use and best of all its free! (Did I mention it is free?)

6033 will walk you through a technique called "normal map combine" where we'll take an existing normal; map and combine its information with another normal map that includes chamfered edges. Sounds complicated, but it is really pretty easy and will let you have low poly models that not only look more detailed than ever, but also have the advantage of chamfered edges (the trick is the chamfered edges are in the normal map only).

Here is a list of the videos and files that make up the sixth lesson:

- 6025_Tutorial: Preserve UVs
6025.max
- 6026A_Tutorial: Modeling Plants
6026A.max
6026A_1.max (1-2)
- 6026B_Tutorial: Modeling Rocks
6026B.max
6026B_2.max
- 6028_Tutorial: Spec Diffuse Bump and Normal Maps
6028_A.max
6028_B.max
- 6030_Tutorial: Render to Texture (Strip Normal Map Info)
6030_A.max
6030_B.max
- 6032_Tutorial: Normal Maps with Nvidia
6032_A.max
6032_B.max
- 6033_Tutorial Normal Map Combine
6033_01.max (A-F)
- Sup_Mudbox Details and Normal Maps.
Normals from Mudbox (1-2).max

Key Topics:

- Preserving UV's when moving from high to lower polygon meshes (working on meshes with UV's already applied)
- Modifiers types: Shell, push, relax
- Anatomy based edge modelling
- Making use of different map types that can export to game engines II
 - Luminosity slots
- More UVW unwrap editor

- Show seam display
- Sketch vertices
- Render to texture basics
 - Burning skylight shadows into maps (ambient occlusion)

Projects:

- No new projects due for this lesson.

Recommended Study Time: 1 week

Lesson 7: Sprites and Pre-Renders

Textbook: Chapter 7-8 (pgs: 157-204)

Lesson 7 brings a welcome break to modelling our critter. We'll be taking a brief look at some of the other ways game assets are made. Pre rendered sprites will be covered in video 7032. The video will also cover how to make lighting rigs and camera templates to make sure our sprites look perfect from all sides. Sprites are still used in handheld games and cell phone games quite a bit and it wouldn't be unusual for you to have to make a few in your career as a game artist.

Kick back and enjoy a week away from the class if you want. I figured you'd need a break. Come back when your ready to finish that creature model, there is a still a ways to go.

Here is a list of the videos and files that make up the 7th lesson:

- 7032_Tutorial: Sprites
 - 7032.max
 - 7032_After.max
 - 7032_BlankDummyScene.max

Key Topics:

- Sprites and other basic game asset types.
 - Rendering sprites
 - Pre-rendering lights
 - Setting up a sprite rig or template
 - Setting up camera rigs
 - Setting up light rigs
- Basic Camera controls

Projects:

- No new projects due for this lesson.

Recommended Study Time: 1 week

Lesson 8: More on Texture Map Types and Applying Textures

Textbook: Chapter: 9 (205 - 220)

More map information will be covered this lesson. You'll be diving into the nuts and bolts of ambient occlusion maps. Ambient occlusion as shown in an earlier video can significantly improve a models look. This improvement can be very simple if you know the correct settings and can get through the render to texture dialogue in MAX (which I think is one of the more confusing menus in MAX). Ambient occlusion maps can also be used as grunge maps or burned into your diffuse maps in Photoshop to help make the diffuse map even better looking. We'll be re-visiting specular and

luminosity maps as well. After this lesson you should be well on your way to mastering all the various maps types you can take can accompany your mesh to the game engine. A lot has changed from the old days when you just made a model and applied a diffuse texture to it.

8032 will show you the final steps to achieving great looking ambient occlusion maps. The process is simple after you do it a few times, but may seem a little confusing at first, so hang in there.

Videos 8033 and 8037 cover specular and luminosity maps. Both can be used to enhance your model with very little effort.

I've also included a supplemental video on cloth and the garment maker modifier. I get quite a few questions on how these processes work to achieve realistic looking clothing so I've included an extra video here. The effect will export out to games, but usually makes for a mesh that isn't exactly optimized...if you want to use the tools on your creature model that is fine, just be aware you may have trouble exporting out to a game engine unless you remove the cloth object first.

Here is a list of the videos and files that make up the eighth lesson:

- 8032_Tutorial: Ambient Occlusion Maps
 - 8032_A.max
 - 8032_B.max
 - 8032_C.max
- 8033_Tutorial: Specular Maps
 - 8033_A.max
 - 8033_B.max
- 8037_Tutorial: Luminosity Slots
 - 8037_A.max
 - 8037_B.max
- Sup_Cloth and Garment Maker

Key Topics:

- Making use of different map types that can export to game engines II
 - Ambient Occlusion Maps
 - Specular Maps
 - Luminosity maps
- Making cloth with the garment maker modifier (OK, doesn't really export to games, but it is really cool!)

Projects:

- No new projects due for this lesson.

Recommended Study Time: 1 week

Lesson 9: Pelt Mapping and UV Tips

Textbook: No reading from the text. The reading from the text is complete.

Almost there...only a few lessons left!

Week 9 starts to wrap up the class. By this point your creature should be completed or almost final. Week 9 will walk you through a few ways to get the final render looking good. You'll also take a look at Parallax mapping, which is a

tricky little way to get high poly details on very low polygon surfaces. You won't want to use parallax mapping on your creature, but if you are interested in new ways games are rendering great looking environments you might want to check out the video. You'll also get your final instructions on how to render turnaround, set up lighting rigs and camera templates. I've included a pretty complete walkthrough on creating a turnaround with an environment attached. Remember you do not have to render an environment or background with your final creature render...but they look sweet if you put a little time into it. I've also included a basic (very basic) tutorial on using biped and the skin modifier to pose your creature. A posed critter looks far better than a poor little crucified creature, and using the biped tools is really very easy. Give posing your creature a try (but it isn't mandatory). If your creature isn't done or is looking a under the weather, spend some time making the model look as good as possible, now would be the time for a big come from behind victory!

9040 covers very basic features of the biped and skin tools in MAX. This class isn't an animation class and you'll only find enough info here to get your creature posed well...but it is a lot fun and makes the critters look great in the end. If you're interested in animation check out the new "Animation in MAX" class offered by the end of summer 07.

10029 really started to wrap things up with a long tutorial on creating the turnaround and final rendering options. You don't have to render as turnaround, but they look good and really show off a well made model and textures well.

Parallax mapping? Huh? 10030 will delve into the world of programming and technical voodoo while looking over the process called parallax mapping (also called a relief map).

Start rendering that final scene. If you plan on using all the options provided in the videos like normal maps, masks, ray traced shadows, global lighting, environments, turnarounds, etc. your render could takes a really long time to finish, so plan ahead. If you plan on just rendering a final image of your creature you probably won't run into any time issues, but make sure you pick a flattering view of your creature for best results.

Here is a list of the videos and files that make up the ninth lesson:

- 9040_Tutorial: Installing a Biped for Posing
9040_A.max (A-D)
- 10029_Tutorial: Creating an Environmental Turnaround
10029_A.max (A-L)
10029_ForRig.max
- 10030_Tutorial: Parallax Mapping Review
10030_A.max
10030_B.max

Key Topics:

- Final texturing tips.
- Pelt mapping
- Using light and dark colouring to establish depth in texture maps
- Using generic surface materials to establish overall texture.

Projects:

- No new projects due for this lesson.

Recommended Study Time: 1 week

Lesson 10: Final Scene Render and Model Check

Textbook No reading from the text. The reading from the text is complete.

Almost there....must...finish....project!

You are almost at the end of the second MAX module. By this point you should know the MAX interface pretty well, be solving most of your mesh issues with no problems and have a healthy, good looking, creature of your very own!

You'll find all the final check lists here in lesson 10 that will guide you through these last few steps. Make sure your work is backed up correctly and you should be in good shape. Just a few more steps and you're done.

10058 will walk you through the final rendering options and make sure you get the render you've been working hard for the last few weeks (or months!).

10059 will show you how to save all the parts and pieces in your scene. Some of you will just have a single creature mesh; others will have hundreds of environmental objects to keep track of. Use this video to make sure all your scene assets get saved correctly and will open on another computer still in place.

10060 is the final video. After this you are own your own. Final lighting hints render options and last minute advice is what you'll find here.

10035, 10038, 10043 and 10050 are all checklist doc files that are here to help you make those final decisions and wrap up the final project for the class.

The final projects are due in order to complete the next and final lesson. Once everything is turned in (see 10050_CL_Final Project Submission.doc) you are finished! Get everything wrapped up; spend some time on the final lighting and positioning of objects. Pick a good camera angle and double check those textures. You're almost finished!

Here is a list of the videos that make up the 10th lesson:

- 10058_Tutorial: Setting up the Final Renders.
- 10059_Tutorial: Saving all the Parts.
10059_Archive.zip
- 10060_Tutorial: Submitting/Rendering the Final Project
TRSetup_Fast02.max
TRSetup_Fast04.max
TRSetup_slow2.max
- 10035_CL_Scene Maintenance.doc
- 10038_CL_Environmental Hints.doc
- 10043_CL_Render Hints.doc
- 10050_CL_Final Project Submission.doc

Key Topics:

- Setting up the final renders
 - Turnarounds and displaying final projects.
 - Adding environmental details to the turnaround
 - Turnaround templates and rigs
- Parallax mapping review
- How to save everything properly
- How to turn everything in for credit
- Final project turn in

Projects:

- No new projects due for this lesson.
- Technically everything is due next lesson (see lesson 10 "CL" checklists).

Recommended Study Time: 1 week

Lesson 11: Final

You are finally at the finish! You should have 3 projects completed and either ready to turn in or already submitted:

- 1. Fix a provided mesh that has errors and make it error free.**
- 2. Create a simple low poly game asset with textures (the crate).**
- 3. Model and texture a creature or animal mesh from your own concept**

Include all textures and scene assets needed to open each scene if possible. Post your final projects on the forums (as an image) and/or in the "uploads" section of GI's website. The final render is the important piece since that is the main item that will show off the final projects.

Here's a quick check list you can use to get that final project 3 (the big one!) ready to turn in:

- Hand in one final MAX scene. Scene should include your creature mesh and all texture maps needed. Include a render of the final project in any case.
- If you have environmental scene elements such as ground displacements, backgrounds, plants, biped bones, etc. make sure all elements are hidden that don't need to be showing in the scene (don't remove them, just hide them). Also try to position the camera and/or view ports so everything is obvious as to what I'm looking at.
- Hand in a final render for project 3. The render can be 640 X 480 (or equivalent) or larger. 72 DPI is fine. The final render can be in any popular format, .jpg, .tif, .bmp, etc

Feel free to e-mail me if you have any questions of problems. Remember my e-mail is: cbrad@earthlink.net or christian@gameinstitute.com catch me on the message boards through Game Institute.

Name the final max scene and render in this format (using your name):

Last name_First name_FinalRender.bmp

Last name_First name_Final.max

Recommended Study Time: 1 week

If you haven't signed up already make sure to sign up for Photoshop for Games (due out by the end of summer 07). This class will focus on the Adobe Photoshop software and how to create great looking textures and various maps types. You probably found that making the models by this point isn't very complicated, but making good looking textures takes some skills not covered in these MAX classes. Photoshop for Games will fill in the gaps and get you the skills you need to be a skilled texture artist.

Thanks to everyone for taking the class! I'm sure it has been frustrating at times and hopefully enjoyable most of the time. Learning a huge chunk of software like MAX can be a daunting task, and it takes a much longer period of time than 11 weeks to get really good with these large programs. Stick with it and hang in there... you'll be comfortable in the software in no time and making all those great models of monsters, killer robots and props in the near future!