

MODUL PRATIKUM



MATA KULIAH CREATIVE ANIMATION

TOPIK

Modeling Spline, Surface Modifier, Mesh

“Knight-Set of Chess 2”

Penyusun:

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KATA PENGANTAR

Alhamdulillah, Puji syukur kami panjatkan pada Tuhan Yang Maha Esa bahwa kini telah tersusun Buku Panduan dan Modul Praktikum Mata Kuliah “Creative Animation” Universitas Esa Unggul.

Tujuan diterbitkannya modul praktikum ini adalah sebagai panduan dalam perkuliahan:

- 1) Pengaturan kegiatan praktikum bagi mahasiswa
- 2) Melaksanakan proses praktik dari bidang keilmuan dalam ilmu creative animation
- 3) Melaksanakan proses pembelajaran kasus, analisis praktis dan analisis profesional dalam praktik creative animation
- 4) Bagian dari proses belajar mengajar dan praktikum pada program pendidikan S1

Creative Animation

Harapan kami semoga modul praktikum ini dapat bermanfaat sesuai tujuan dan sasaran pendidikan.

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Universitas Esa Unggul

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Tujuan Intruksional

- Memberikan Pengantar dan Perkenalan atas mata kuliah Creative Animation
- Mempersiapkan mahasiswa agar mampu mempromosikan diri dan mampu berkomunikasi dengan audiens.
- Pengenalan software Autodesk 3D Studio Max yang sebagai jembatan antara para desainer, engineer dan industry.

Sasaran Pembelajaran

Sasaran pembelajaran praktikum manual mata kuliah Creative Animation ini adalah mahasiswa S1 Desain Komunikasi Visual semester 3 Fakultas Desain dan Industri Kreatif Universitas Esa Unggul.

Sumber Pembelajaran

Sumber pembelajaran yang digunakan sebagai rujukan adalah:

- 3dsmax7 Fundamentals, NewRiders, TedBoardman
- 3d'sMax5Fundamentals, Techmedia, TedBoardman
- Inside3dsmax7, NewRiders, TedBoardman

Sumber Daya

A. Sumber daya manusia:

- Dosen pemberi kuliah pengantar : 1 orang
- Asistensi dosen : orang

B. Sarana dan Prasarana

Ruang Lab Komputer Universitas Esa Unggul

Ruang Lingkup

Ruang lingkup praktikum Creative Animation meliputi penjelasan tentang:

- Mendeskripsikan fungsi dan tujuan, pengembangan keterampilan & pengetahuan dalam 3D Modelling Animasi.
- Modelling dan creation of 3D Objects berbasis komputer dengan 3DS Max
- Mengaplikasikan teknik dasar 2D Splines, Shapes ke dalam 3D Object
- Mengaplikasikan teknik 2D Splines, Shapes & compound object
- Mengaplikasikan konsep 3D Modeling, Creating & Modifying Objects - Sesi 1
- Mengaplikasikan konsep 3D Modeling, Creating & Modifying Objects - Sesi 2
- Mengerti dasar-dasar Lighting & Camera Sesi 1

8. Mengerti dasar-dasar Lighting & Camera Sesi 2
9. Mengerti konsep membuat animasi dan motion dengan *Keyframe Animation*
10. Mengerti konsep dalam memberikan Texture with Max Sesi 1
11. Mengerti konsep Simulation & Effects

Alat dan Kelengkapan

1. Komputer, laptop, Wacom, Proyektor, Digital Pen, Mouse 3 Button.

Pengendalian dan Pemantauan

1. Absensi mahasiswa dan dosen yang telah ditanda tangani
2. Format asistensi tugas yang telah ditandatangani setiap adanya asistensi, diberi nama jelas dosen yang menilai serta peserta didik yang bersangkutan
3. Pedoman penilaian pencapaian kompetensi



Pelaksanaan

Modeling 3D, set of chess. Many different techniques can be used to create the objects in your scene. The techniques you learn in these tutorials can be adapted to any style of modeling you need to perform. For instance, if you're building models that will be incorporated into a game, you'll be most interested in low polygon modeling techniques. The same techniques will be equally beneficial when building highly detailed models for architectural presentations or motion pictures.

Creating primitive objects

Using a modifier to alter an object's shape.

Creating and editing spline objects

Converting splines into geometry using modifiers

Setting up viewports with background images

Editing a model at sub-object levels

Features in Editable Poly

Using Merge and Xrefs to bring external objects into your scene

Using the Graphite Modeling Tools Ribbon to edit poly objects



Modeling a Chess Set

In this tutorial, you will create four pieces of a chess set—a pawn, a bishop, a rook and a knight—using various modeling tools and techniques.



In this tutorial, you will learn how to:

- Create and edit spline objects.
- Use Lathe modifier to create a 3D object.
- Use Face extrusion to create geometry.
- Use Boolean compound objects.
- Use viewport background images.
- Use the Surface modifier.

Skill level: Beginner

Modeling a Knight

In this lesson, you will create a knight for a chess set using custom splines and the Surface modifier. The Surface modifier makes a 3D surface from an arrangement of intersecting splines.



Modeling a knight presents a special set of challenges: its unique contours demand that it be sculpted carefully. The Surface modifier is ideal for this type of modeling.

Features and techniques covered in this lesson:

- Building a spline cage.
- Refining and Connecting spline vertices with new segments.
- Applying and adjusting the Surface modifier.
- Using the Symmetry modifier.
- Extruding patches using the Edit Patch modifier.

Skill Level: Intermediate



Refine the mane line:

- 1 Adjust the Perspective viewport so that you are looking at the back of the neck.
- 2 Using Connect/Refine, start from the vertex at the very top of the head and work your way down to refine a mane line as shown in the following illustration.

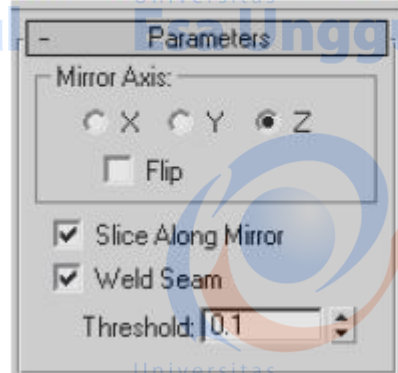
As you refine the segments, surface patches temporarily disappear from view but reappear once you finish the command. This is because you are introducing additional vertices and this creates patch areas that have more than four vertices. Once you are done refining the spline cage, however, the end result is made up of quads again and therefore displays correctly.

- 3 Exit the Vertex sub-object level and then click the Surface modifier to go to the top of the stack.

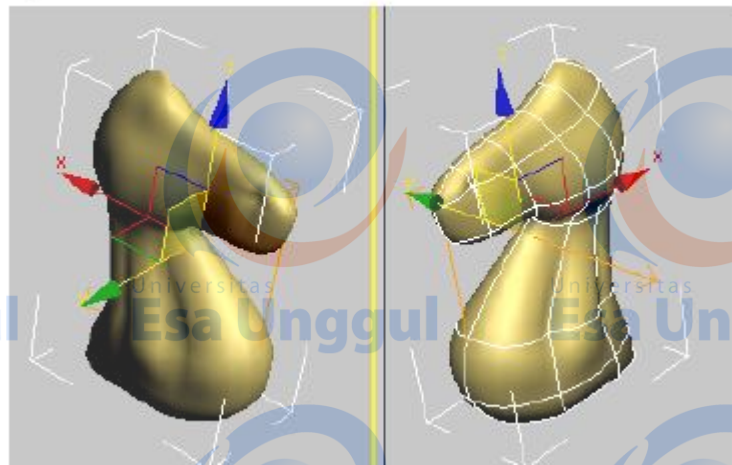
Mirror the spline arrangement:

- 1 If you haven't done so already, highlight the Surface modifier on the modifier stack.

- 2 From the Modifier list choose Symmetry.
- 3 On the Parameters rollout, set Mirror Axis to Z.



- 4 Orbit around the object in the Perspective viewport to see the full 3D object.



Extrude and adjust the mane:

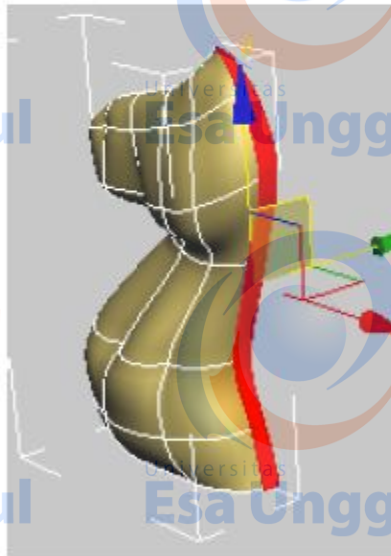
- 1 Highlight the Surface modifier on the modifier stack. From the Modifier list, choose Edit Patch. This inserts an Edit Patch Modifier above the Surface modifier and below the Symmetry Modifier.



- 2 If necessary, turn off Show End Result. You should be able to see only one half of the knight in all viewports.



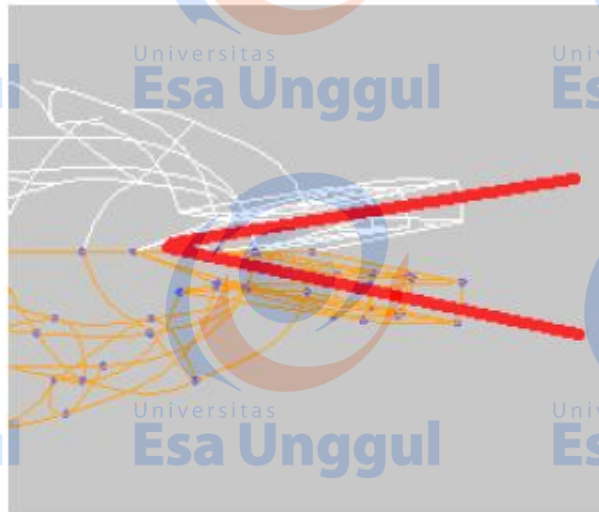
- 3 On the Selection rollout of the Patch modifier, choose the Patch button.
- 4 In the Perspective viewport, select the patches that make up the horse's mane.



- 5 In the Geometry rollout > Extrude & Bevel group, click the Extrude button.
- 6 Bring the cursor close to the selected patches in the perspective view and then click and drag to extrude the patches. Keep an eye on the Front viewport for reference.



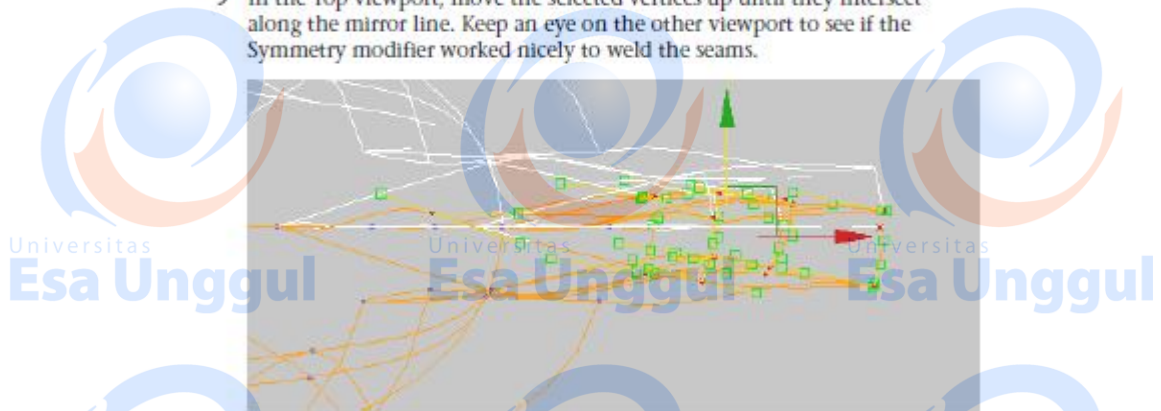
- 7 **H** On the Selection rollout, switch from Patch to Vertex and turn on Show End Results. Because of the direction of the extrusion, you need to adjust the vertex position to give the Symmetry modifier a little help.



- 8 In the Front viewport, use region selection to select all vertices on the outer edge of the mane. Use the Ctrl key if necessary.

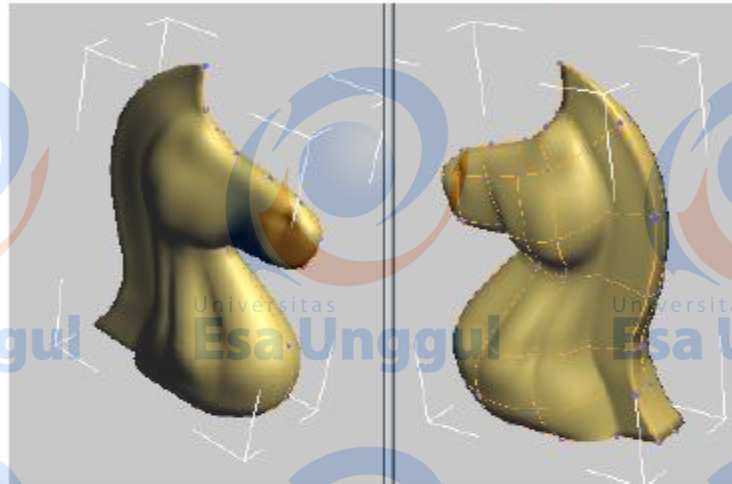


- 9 In the Top viewport, move the selected vertices up until they intersect along the mirror line. Keep an eye on the other viewport to see if the Symmetry modifier worked nicely to weld the seams.



NOTE: This was a rather simplistic way of adjusting the mirror line. Ideally, you want to move the vertices individually or in groups, while at the same time adjusting tangents for better effects.

- 10 Adjust the positions of the vertices and tangents in the Front viewport to follow the reference image and create a nicely flowing mane.



Create the base:

Even though you could have created the base as part of the same spline cage, it is easier to build it as a separate object and then attach the two objects together as a single mesh. The base is a simple lathed object, much like the ones you created in the previous lessons.

- 1 From the Create menu, choose Shapes > Line.
- 2 On the Creation Method rollout, set both the Initial Type and Drag Type to Corner.
- 3 In the Front viewport, click a point in the top center of the base, just below the knight.
- 4 Hold down the Shift key to constrain the line to the vertical direction, and then click a point at the bottom center of the base.

- 5 Move to the right and click a point at the bottom-right corner of the base.
- 6 Release the Shift key and go up the right side to create a rough profile of the base. Make sure you close the spline when you are done.



- 7 Go to the Modify panel. On the Selection rollout, choose Vertex.
- 8 On the Geometry rollout, choose Fillet.
- 9 Use the Fillet tool to round off the vertices that need it.



- 10 Exit the Vertex sub-object level.
- 11 From the Modifier list, choose Lathe.
- 12 Set the Segments to 32 and turn Weld Core. In the Align group, click Min.

NOTE If you need further detail on how to create a lathed object, refer to the first lesson in this tutorial: [Modeling a Pawn](#).

Turn the two objects into a single mesh:

- 1 Make sure the base is still selected. Right-click it and from the quad menu, choose Convert to > Convert to Editable Mesh.
- 2 On the Edit Geometry rollout, click Attach and then click on the knight in any viewport.
- 3 Change the object's name to **Knight**.
The knight is now complete, unless you want to add a mouth, which you can do by using Refine to add vertices, and then moving the vertices.