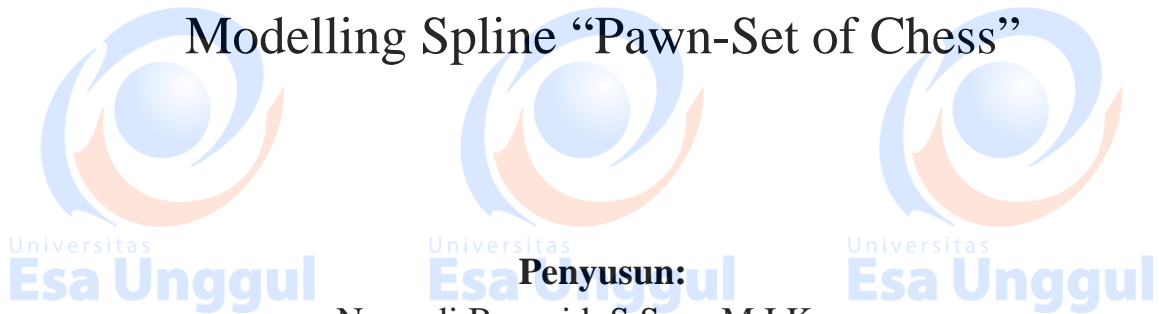# MODUL PRATIKUM

MATA KULIAH
CREATIVE ANIMATION

TOPIK
Modelling Spline "Pawn-Set of Chess"

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.

Jakarta, 24 Maret 2018
Universitas Esa Unggul

Nuryadi

DAFTAR ISI

↓ 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 pembalajaran yang digunakan sebagai rujukan adalah:

1. 3dsmax7 Fundamentals, NewRiders, TedBoardman
2. 3d'sMax5Fundamentals, Techmedia, TedBoardman
3. Inside3dsmax7, NewRiders, TedBoardman

↓ Sumber Daya

A. Sumber daya manusia:

    1. Dosen pemberi kuliah pengantar : 1 orang

    2. Asistensi dosen : orang

B. Sarana dan Prasarana

    Ruang Lab Komputer Universitas Esa Unggul

↓ Ruang Lingkup

Ruang lingkup praktikum Creative Animation meliputi penjelasan tentang:

1. Mendeskripsikan fungsi dan tujuan, pengembangan keterampilan & pengetahuan dalam 3D Modelling Animasi.
2. Modelling dan creation of 3D Objects berbasis komputer dengan 3DS Max
3. Mengaplikasikan teknik dasar 2D Splines, Shapes ke dalam 3D Object
4. Mengaplikasikan teknik 2D Splines, Shapes & compound object
5. Mengaplikasikan konsep 3D Modeling, Creating & Modifying Objects - Sesi 1
6. Mengaplikasikan konsep 3D Modeling, Creating & Modifying Objects - Sesi 2
7. 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, Projektor, Digital Pen, Mouse 3 Button.

Pengendalian dan Pemantauan

1. Absensi mahasiswa dan dosen yang telah ditanda tangani

2. Format asistensi tugas yang telah ditandatangai 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

Time to complete: 1 hour

Modeling a Pawn

In this lesson, you will model a pawn for a set of chessmen. In a wooden chess set of standard design, pawns are turned on a lathe. You will use 3ds Max to do something similar: draw the pawn's outline, and then use a Lathe modifier to fill out its geometry. The Lathe modifier revolves the outline around a central point to create a shape, not unlike the way wood is turned on an actual lathe.

Features and techniques covered in this lesson:

■ Using spline shapes to draw the outline of an object.
This lesson also briefly introduces you to spline editing.
A spline is a type of curve that is interpolated between two endpoints and two or more tangent vectors. The term dates from 1756, and derives from a thin wood or metal strip used for drafting curves in architecture and ship design.

■ Editing the shape vertices and edges to better control spline drawing.

■ Using the Lathe modifier to turn a 2D outline into a 3D model.

Skill Level: Beginner

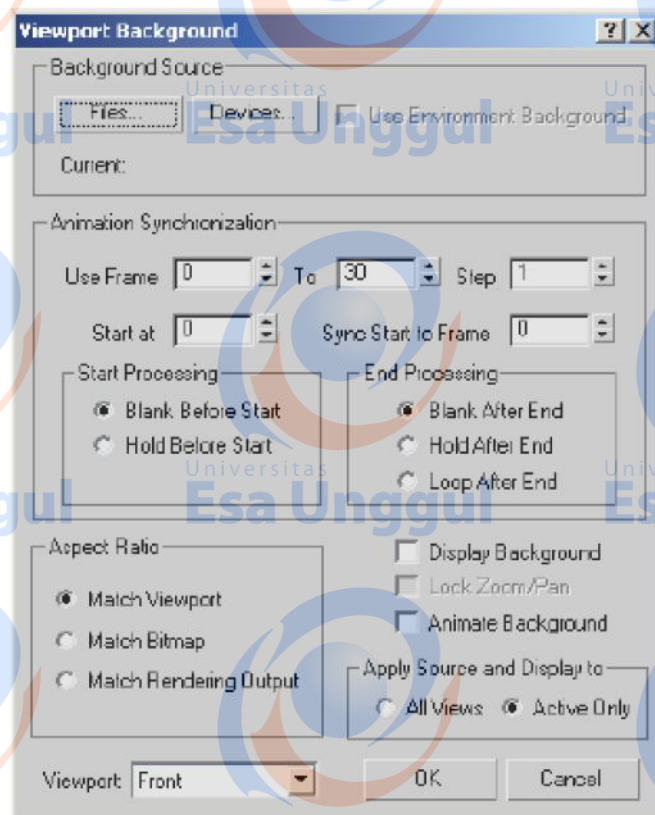Time to complete: 15 minutes

Set up the lesson:

 Start 3ds Max or, if the program is already running, choose Reset from the Application menu.

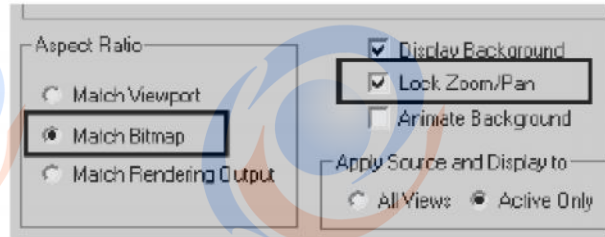No scene file is required for this tutorial.

Set up the viewport background:

To create the profile of the pawn (and other chess pieces), you need to load a reference image into the viewport so you can trace over it.

1 Right-click the Front viewport to make it current.

2 From the Views menu, select Viewport Background. The Viewport Background dialog appears.

3 Click the Files button. navigate to the \sceneassets\Images folder and double-click ref-chess.jpg to load it.

4 In the Aspect Ratio group, choose Match Bitmap. This ensures the image in the viewport does not get distorted.

5 At the right of the dialog, turn on Lock Zoom/Pan. This ensures the background image reacts to zooms and pans you may use for viewport navigation.

6 Click OK to exit the dialog. A bitmap now appears in the Front view. Press G to disable the grid, as you won't need it for this exercise.
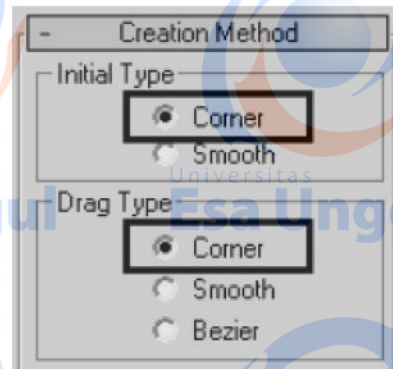

Now you are ready to begin drawing.

Start the pawn's outline:

You will draw the pawn's outline beginning with the "knob" on top.

1 Zoom in on the pawn reference in the Front view.

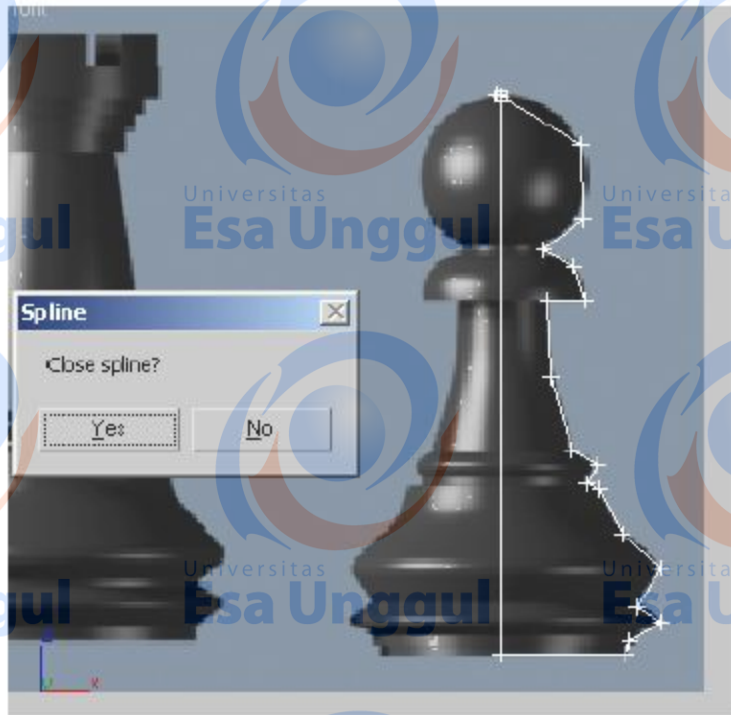2 On the Create panel, click Shapes, and then click Line.

3 On the Creation Method rollout, set both Initial Type and Drag Type to Corner. This ensures all line segments will be linear.

4 In the Front viewport, click a point near the top center. Press and hold the Shift key to constrain the line to the vertical axis and then click a second point at the base of the pawn.

5 With the Shift key still pressed, click a point in the bottom-right edge of the base.

6 From this position, click a few points on the right contour of the reference image to create a rough profile, going up the side of the image. You do not need to be very precise at this time as you will be able to edit the profile later. To close the spline and end the command, click on the first point.

7 When prompted, click Yes to close the spline.

Edit the pawn's outline:

1 With the spline still selected, go to the Modify panel.

2 On the Selection rollout, click the Vertex button.

3 In the Front viewport, zoom in on the bottom part of the profile you created.

Lathe the outline:

At this point, you can continue with the file you created in the previous steps, or you can open the file *pawn_outline_edited.max*, and continue from there. This scene is in the folder, *\scenes\modeling\intro_to-modeling*.

1 Select the pawn and click Modifier List above the modifier stack display.
   This is a drop-down list of various modifiers.

2 From the list, choose Lathe.

The pawn is now a 3D object.

The pawn model might not look as you expected, but that's only because the axis of revolution, by default, is based on the spline's pivot point rather than the left side of the profile. You will fix that in the next step.

3 On the Parameters rollout of the Lathe modifier, find the Align group and click Min.
   The pawn now looks better, albeit a bit "choppy."

4 On the Parameters rollout of the Lathe modifier, increase the Segments value to 32.

The pawn is now smoother, as you can see if you render the Perspective viewport, but the center seems a bit pinched.

5 On the Parameters rollout of the Lathe modifier, turn on Weld Core. This combines all the vertices at the center of the model into one.