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Learn at a time and place, and pace that is of your choice.

Plan your study to suit your convenience and schedule.

Houdini Training Course

Email Contact: info@educba.com



EDUCBA



www.educba.com

Course Overview

This Houdini bundle course will help you learn Procedural Modeling, Soft Body Dynamics, Mastering Destruction, Cloth Workflow, VEX Wrangle in Houdini Software.

Houdini Skills

We learn the following skills:

There are multiple job openings in the field using Houdini such as modeler, texturing artist, designer, gamer, VFX artist, lighting artist and many more.

Basic computer knowledge and application usage will be learned and work with 2D and 3D designees on application shortcuts and scripting will be trained on.

Course Features



Course Duration-
93+ Hours



Number of Courses



Verifiable
Certificates



Lifetime Access



Technical
Excellence

About Houdini

Houdini is a complete animation development software produced by SideFX Company it is a single application for all the animation needs it deals with Modeling, Texturing, Unwrapping, lightening, animating, rigging, compositing, rendering etc.

The tool is an expert in handling Procedural modeling, Soft body Dynamics, Cloth Workflow, VEX Wrangle expressions and scripts make it more interesting to work for and give a visual natural feel to your creation.

Houdini Course

This is a Bundle Course that includes complete in-depth Houdini Learning Courses combined into one Complete Course.

This Bundle perfectly meets the requisite of the industry and gives you a better chance of being hired as a Houdini professional.

Section 1. Getting Started

- Getting Started with Houdini Software
- Houdini Supports
- Create Tab in User Interface
- Construction Plane

Section 2. Create Tab Options

- Grid Option
- Platonic Solids
- Curve Options
- Nurbs Option
- Other Views in Houdini
- Rotation Options
- Construction Plane Perspective

Section 3. Preferences

- Preferences
- Preferences- Takes
- Names Tab
- Grid and Snapping Options
- Camera Setting and Viewing
- Camera Setting and Viewing Continue
- Handle and Parameter Options
- Channels
- Locking and Unlocking
- Uniform Scaling
- Hotkeys and 3D Object With Various Views
- Scripting Attachment to Objects

Section 4 . Creation and Implementation

- Creation and Implementation
- Creation and Implementation Continued
- Copy to Points Option
- Polygon Mesh
- Smooth Shading
- Scale Options
- Move Options
- Selecting Part of a Section
- Editing through Node Editor View
- Dynamic Parent Option
- Function of Dynamic Parent Option
- Node Editor-BlendPose

Section 1. Introduction

- Introduction to Procedural Modeling in Houdini

Section 2. How to Create Numbers Procedurally

- Outer Parts of Watch
- Creating Numbers procedurally
- Creating Numbers procedurally Continues
- Creating Extrusion Groups

Section 3. Creating Shapes using Stamp Tool

- Creating Seconds Symbols
- Resampling Points
- Working with Polywire SOP Node

Section 4. Modeling outer Ring of Watch

- Outer Ring Modeling
- Using the Skin Node
- Creating Ramp based Point Position Control
- Fuse SOP Node

Section 5. Modeling Hour and Minute Hand procedurally

- Modeling Watch Hands
- Creating Hands using Skin Node
- Controlling Shape using Ramp Parameters
- Using Charnoff Function to change Shape
- Using Carve SOP Node to create a Base for Numbers

Section 6. Setting up all the channels

- Finalizing Channel Referencing
- Creating New User Defined Controls
- Connecting All Controls with Base Channel
- Soft Transform, Using Boolean tools to Create Handles
- Grouping Primitives Based on Primitive Number

Section 7. Troubleshooting Shading and Creating Digital Assets

- Create Basic Shading using Principle Shader
- Creating Digital Asset
- Importing Channels from a Null Node to Above Level

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Procedural Modeling in Houdini – Advanced

Section 1. Introduction

- Procedural Modeling in Houdini - Advanced

Section 2. Creating Aperture

- Creating Watch Interior
- Adding Controls to watch Interior
- Creating Final Shape using New Boolean Tools

Section 3. Creating IK Based Chain Reaction

- Create IK Based Chain Reaction Setup
- Creating Points using Add Tool
- Adding a Maximum and Minimum Value
- Using Copy Stamp to Create Chain Reaction Setup
- Creating Chain Handle Procedural
- Adjusting Normals using Poly Frame
- Using poly Extrude to create Thickness
- Poly Bevel to Refine Shape
- Creating Point Groups using Point Number
- Creating Groups using VEX
- Creating Transform and offset Controls

Section 4. Creation of Floral Pattern

- Controlling PSCALE using Wrangle Node
- Using Poly Frame to Orient the Copied Objects
- Understanding Point VOPs
- Mix to Create Floral Transition Between points and Normals

Section 5. Creating Circular Pattern

- Introduction to Conditional Loops
- How to Implement for Loop
- SCALE and ORIENT Attributes
- Implement for Loop and Separating Primitives
- Attribute Transfer and TRANS Attribute Offset
- Attribute Transfer and TRANS Attribute Offset Continues
- Creating Distance Based attributes on Points

Section 6. Creating Gears

- How to create Extrude Groups
- Using Poly Extrude Groups Effectively
- Creating Gear Teeth Procedural
- Using Facet
- Different approaches to Model Gear
- Creating Outer Ring and Gear Teeth Using Attribute
- Creating Gear Hinge and Pivot
- Using Null Nodes
- BBOX Attribute

Section 7. Creating Springs

- How $\sin$ and $\cos$ Functions Works
- Implementing SIN and COS Point Positions Controlling
- Implementing SIN and COS Point
- Creating Spiral Patterns using SIN And COS Function
- Animation Controls Creation

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Procedural Modeling in Houdini – Advanced

Section 8. Outer Area Creation

- Using Curve Tools to Create Shapes
- Using Bevel on Point
- Poly Extrude with Zscale Controls
- Modeling Screws Using Boolean Tools

Section 9. Finalizing Modeling and Channel Referencing

- Creating a VDB Effect
- Adding a Crone to VDB
- Adjust the Gear Transform
- Reducing the Polygon Size
- Adding a Watch

Section 10. Animating the Asset

- How to Animate Asset Attributes
- Creating Camera Animation
- Creating Render Controls

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Houdini Soft Body Dynamics

Section 1. Introduction

- Introduction to Houdini Softbody Simulation

Section 2. Creating Wire Objects

- Creating Wire Object in Houdini

Section 3. Wire Solver Physical and Material Properties

- Wire Object Properties and its Mass and Density
- Linear Spring and Linear Angular Controllers
- Working with Plasticity Parameters
- Normal Drag and Tangential Drag Properties

Section 4. Creating SpaceShip Tentacles

- Modeling Tentacles for wire Simulation
- Glue to Animation Constraint and UV Transform
- Applying Noise using Windforce and Noise Field
- Using Polywire and Thickness of Polywire using Expressions
- Wire Deformation the wire Simulation

Section 5. Combining Pop Solver with Wire Solver

- How to Combine wire Solver and POP Solver
- POP object and Emit from POP Source

Section 6. Combining RBD Solver with Wire Solver

- Combining RBD Solver with wire Solve
- Creating Wire glue constraint to Connect wire Object with RBD Object
- Internal Force Object to Point Force using Point VEX Command

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Houdini Soft Body Dynamics

Section 7. How to work with Wire Constraints Angular and Spring

- Working with Constraint Network and Pin Constraint
- Wire Angular Constraint
- Wire Glue Constraint

Section 8. Rope Project

- Creating a Rope Bridge Asset
- Using Line Tool and Creating Attributes For Line Tools
- How to use Attribute to Create Constraint Networks
- How Constraint Network Works in Rope Project
- Troubleshooting Rope Bridge Setup

Section 9. Production Examples

- How to Create Hair Simulation using Wires
- How to Create Own Hair System using Paint and Scatter Nodes

Section 1. Introduction

- Introduction to Mastering Destruction in Houdini

Section 2. Working with Break SOP

- Working with Break SOP
- Using Clip SOP in Houdini
- Creating Slip SOP in Houdini
- Explorer View Slip SOP
- Working with Boolean in Slip SOP
- Working with Shatter in Boolean
- Grid View Shattering
- Working with VDB Boolean
- Creating Voronoi Noise in Houdini
- Working with Voronoi Fracture

Section 3. How DOP System Works

- How to Work with DOP Network
- Creating a DOP Network in Houdini
- Packed Primitives in DOP Network
- Creating Packed Primitives in DOP Network
- Fundamental Geometry of Packed Primitives
- Working with Proxy Geometry in DOP Network
- Adding Multiple SOP Solver DOP Network

Section 4. Constraints

- Working with Constraints in Houdini
- How to Break Object Using Constraint
- Hard Constraint Workflows
- Working with Adjacent Points
- Working with Glue Constraint in Houdini
- Creating a Glue Constraint in Houdini
- Dual Glue Network Setup
- Creating Dual Glue Network Setup
- Output of Dual Glue Network Setup
- Controlling Glue Constrain using SOP Solver

Section 5. Working with Impact Data

- Working with Impact Data
- Creation of Impact Data in Houdini
- Secondary Debris Creation using Particles
- Controlling Debris
- Creating Controls to debris
- Adding Pyro FX
- Finalizing Pyro FX

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Houdini Cloth Workflow

Section 1. Introduction

- Introduction to Houdini Cloth Workflow

Section 2. Cloth Shelf Tools

- Cloth Shelf Tools in Houdini
- Animation of Cloth Object in Houdini

Section 3. Creation of Cloth Object

- Creation of Cloth Object from Scratch
- Cloth Object Animation using Target Deformation

Section 4. Creating collision Geometry

- Creating collision Geometry in Houdini
- Creating Collision Substeps

Section 5. How to use Creation Frame

- Emit Falling Papers DOPs for Cloth Simulation
- Creating Subnetwork to Create Pivot Parameter in Frame

Section 6. Working with Stiffness Multiplier

- Working with Stiffness Multiplier
- Working with Stiffness Multiplier Cloth

Section 7. Combining SOP Solver with Cloth Solver

- Combining SOP Solver with Cloth Solver
- Delete faces of Object using SOP Solver in Cloth Solver

Section 8. Working with Dampening and Bend Model Attributes

- Working with Dampening Model Attributes

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Houdini Cloth Workflow

Section 9. Working with FBX

- Export Characters from Mixamo and Import FBX in Houdini
- Converting Animating Geometry to Cloth
- How to Troubleshoot FBX and Alembic Issues
- Thickness and Collision Radius for Cloth workflow

Section 10. Cloth Simulation and Simulating Top Cloth

- Modeling Top
- Cloth Simulation
- Working FX with Cloth
- Exporting the Simulated Geometry as a Simulating Object

Section 11. Waist Belt Modeling and Simulation

- Modeling Waist Belt
- Creating Cloth Attach Over the Simulation

Section 12. Simulating Bottom using Constraints

- Stitch Constraint to Attach Cloth in Houdini
- Working with Hard Constraint
- Soft Constraint

Section 13. Fracture Threshold and Target Strength

- Work with Wind Noise and Noise Field in Fracutring
- How to Create Pin to Animation Constraint and Fracture Thersold
- How to use Target Stiffness in Houdini

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Houdini Cloth Workflow

Section 14. Peeling Effect using Fracture Parameters

- Peeling Effect using Fracture Parameters
- How to build Scene for Tearing Effects
- Working with VOPS
- Transfer Point to Animation Constraint with SOP solver and VEX Functions
- Using Compare Node to Create a IF Condition Based Setup in VOPs
- Implementation of Fracturethreshold using Near Points Function

Section 15. Combining RBD with Cloth

- How to Create basic RBD Setup
- How to Constraint RBD with Cloth as Attachto body Constraint
- How to Transfer Simulation from RBD to Cloth using Constraints



VEX Wrangle in Houdini

Section 1. Introduction

- Introduction to Vex Wrangles
- What is VEX

Section 2. Variables of VEX

- Variables in VEX
- Types of Variables In VEX

Section 3. Working with implicit Attributes

- Creating Implicit Attributes
Wrangles

Section 4. Creating Custom Attributes and UI Controls

- Creating Custom Attributes
- Creating Custom UI Controls

Section 5. Understanding Primitive Wrangle

- Primitive Wrangle
- Types Primitive Wrangle
- Exploring a Details of Wrangles

Section 6. Loop and Function

- IF Loop Functions
- For and While Loops
- Ramps and Fit Functions
- Noise Functions

Section 7. Creating Wave Deformer

- Using Length Function in Wave Deformer
- Creating a Wave

Section 8. Point Based Rotation using Wrangles

- Point Based Rotation

Section 9. Rotation Using Matrices

- Rotation Using Matrices
- Example of Rotation Using
Matrices

Section 10. Introduction to Arrays and Working with SOP Solver

- Introduction to Array in Wrangles
- Use Find Function in Array
- Detail Intrinsic and Expand Group
Function
- How to use SOP Solver
- Using SOP Solver



VEX Wrangle in Houdini

Section 11. Customizing Solver and Near Points wrangle Function

- Creating a Customizing Solver
- Decay Behavior to SOP Solver
- How to Hide and Unhide
- Working Near Points Function
- Using Near Points Function
- Creating a Vanishing Effect

Section 12. Near Points Function and Using Wrangles

- Scatter Points
- Points Effect
- Creating a Branching Effect
- Convert to Geometry Figure

Section 13. Understanding Point Clouds

- Point Clouds
- Create Point Cloud Network
- PC Handle and PC Import
- Point VOP and Implementing Wrangles

Section 14. Implementation of Point Clouds Function

- Object Attributes Using Point Cloud
- How to Move Particles on a Path
- Create a Connecting Geometry
- Blur Effect Using Point Cloud

Section 15. Understanding DOT Product

- DOT Vector Function
- Calculate DOT Function
- Particle Behavior Dot Function
- Arc Cosine and Degrees to Radiant

Section 16. Understanding Cross Product

- Cross Product Vector
- Calculate Cross Product
- Rotate Object Cross Product
- Moving Spiral Pattern Cross Product

Section 1. Introduction to Houdini

- Introduction to Houdini

Section 1. Getting Started

- Houdini Operators
- System Requirements
- Other Requirements

Section 3. Houdini Tools

- Modeling Tools, Polygon Tools
- Deform Tools, UV Tools
- Cloudfx and Volumes

Section 4. Animation Tools

- Animation Features and Tools
- Animation Tools, Motionfx

Section 5. Rigging Tools

- Rigging Tools and Options
- Character Tools, Auto-Rig Tools
- Auto-Rig Tools, Lighting

Section 6. Lighting Tools

- Lighting, Camera and Light Tools

Section 7. Rendering

- Rendering, 3D Motion Blur Features
- Sss, Soho, Supported File Formats
- File Formats, Compositing, Imaging
- Houdini Fx
- Creation Tools

Section 8. Manipulation Tools

- Manipulation Tools, Fluids and Ocean Fx
- Ocean Fx and Tools
- Bullet RBD
- Particles
- Finite Elements and Cloth Simulation
- Cloth Simulation
- Wire Constraints
- Position Based Dynamics
- User Experience

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Section 9. User Interface

- User Interface
- Geometry
- Animation Features
- Volume and Crowd Features
- Dynamics and Hair Grooming
- Shader Builder, Metal Material Features
- SSS, Lava Material
- Lighting, CGX, New Mantra Rendering Options
- Hqueue Features, Lighting and Animation Features

Section 10. New and Earlier Version Features

- New Features
- Viscous, Lava Tool Features
- FEM Simulation Comparison
- Earlier Version Features and Drawbacks
- The Point Position
- After Covering the Effects
- The OpenGL ROP
- The User Interface Within
- Miscellaneous Features
- Compositing
- Random Seed
- Parameters
- Source Controls

Section 11. Getting Started

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- Function of Dynamic Parent Option
- Node Editor-BlendPose
- Follow Path Option

Section 15. Deform Tab

- Mountain Deform
- Coloring Geometry
- Ocean wave
- Ocean Valuate
- Box Size
- Reference Wind
- Tab Menu
- Wavefo
- Constant Coefficient
- Position

Section 16. Expressions

- Moving
- Other Notes
- Choose the Center
- Delete Channel
- Edit Expression
- Radius Moving
- Torus Aplaying Channel

Section 17. Setting Parameters

- Applying Node and Parameters
- Parameter Description
- Existing Parameters
- Center - My Float

Section 18. Relative Referencing

- Adjust Sphere Radius
- Adjust Torus Radius

Section 19. Key Frame Animation

- Color Scheme
- Working on Key Frame
- Looping
- Real Time Player
- Scoping of Channels
- Setting Key Frames
- Key Frame Animation
- DOP Sheet

Section 20. VFX and Animation

- Aplaying For Special Effect
- Smoke Object
- Gravity Force
- Pyro Solver
- Pyro Effect
- Visual Fx application and Networking

Section 21. RBD and Animation

- Autodop Network
- Rigid Body
- Autodop
- RBD Collision and Animation
- Particles and Animation

Section 21. RBD and Animation

- Autodop Network
- Rigid Body
- Autodop
- RBD Collision and Animation
- Particles and Animation
- RBD Angular
- Character options and Parameters
- Pipe Character
- Texture
- Character VFX
- Follow Path
- Fireworks
- Pop Network
- Fluids Container

Section 22. Crowd Populate

- Crowd Populate
- Simulation
- Crowd Simulation
- Crowd Simulation Into Stadium
- Stadium Crowd
- Street Crowd
- Paint Density
- Cloth Simulation

Section 23. Lighting and options

- Spotlight and Attributes with SOP
- Rendering with Mplay
- Area Light Options
- Light Types
- Individually Checking Light Options
- Spotlight, Distant Light
- Ambient Light and Options

Section 24. Rendering and Mantra Rendering

- Spotlight and Rendering Settings
- Rendering the Completed Animation
- Define the Format
- Selecting the File
- Checking the Rendered Output

Section 25. Compositing

- Composite View with Image
- Effects and Parameters
- Compositing with Color Correct
- Ramp Nodes and Parameters
- Image Aspect
- Selecting New Color
- Compositing with Display World Image
- Compositing with Image
- Animation, VFX
- Composited Rendering Process

Section 26. Material and Shop Manager

- Material Pallet operation upon 3d objects
- Uvtexturing and Material
- Shop Manager and Operations with Material
- Vopsop
- CHOP network
- Digital Asset



Frequently Asked Questions

What should be my eligibility to do this Houdini course?

If you have passion and creative about animation, gaming and movie VFX creation and so this Houdini training course contains all the content framed and best suitable for you learn the get familiar with the technical concepts and effects which are frequently used in industry it may be 2D and 3D animating with tools and attributions to make the work visually the best frame, please check the course curriculum for more information.

Is Houdini suitable for postproduction works for a movie?

Yes, Houdini is flexible enough to create or import any 2D and 3D animation with desired node finder connections, scripting and also allows 3rd party plugins to access and apply effects to the content. Then Grooming, rendering, few more touchup tools can be used for adding life to your animation. More details will be discussed at the time of joining.

How is Houdini better than other animation software?

To know this, you have to join the course to know more details in deep, whereas the process in any software for creating complete 3D animation. The process workflow and tools which are available and few which are developed as per customer's requirement demand which made it special and raises in sales parallel with the client's satisfaction and positive feedbacks.



Customer Reviews

“

The Houdini course from EDUCBA was well explained and had good time in learning all the stuff to gain the skills of animation, unwrapping, lightning, compositing, rendering and many more the techniques and scripting using python and few other Note Finder editing are simple and effective when applied. Continuous practice is important for this application. The course is interesting and had good time learning Houdini for animation.

Gaurav Shukla

”

Houdini is the best application to get trained on. It takes time for beginners to understand and handle the interface once they are habituated, then can enjoy with its tools and stuff available in software. I was very much interested with the Procedure modeling in gaming as they contain lot of big, medium and small objects in game in which user feel it as obstructs in game while playing. We can create our models in less time.

Michaelle



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Houdini Training Course

For Queries please contact:
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