Advanced Master's Degree
Comprehensive 3D Modeling

tech global university

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Advanced Master's Degree
Comprehensive 3D Modeling

- Modality: **online**
- Duration: **2 years**
- Certificate: **TECH Global University**
- Accreditation: **120 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: www.techtitute.com/us/information-technology/advanced-master-degree/advanced-master-degree-comprehensive-3d-modeling

Index

01

Introduction

In an increasingly digital and technological work environment, Comprehensive 3D Modeling has become an indispensable skill, especially in fields such as animation, video games, film, architecture and engineering. This discipline allows professionals to create highly detailed and realistic visual representations. Furthermore, it is essential for developing innovative and high-impact projects. This discipline covers key areas of the modeling process, including object design, texturing, lighting, rendering and 3D animation, with the aim of offering a comprehensive view of 3D production. In response to this growing demand, TECH presents its program, which is a 100% online specialization designed to take students to an expert level in the most advanced tools and techniques in the sector.

Specialize in the program that will make you see the world from new perspectives, where everything is possible"

Comprehensive 3D modeling not only offers unique precision and flexibility, but has also established itself as a key tool in the creation of detailed three-dimensional representations. This allows for the exploration of multiple iterations and modifications without the need to invest time and resources in physical prototypes, which is essential in product development. In addition, it considerably reduces production costs by facilitating the simulation and testing of designs. In this way, it shortens delivery times by optimizing each stage of the process. In the virtual environment sector, comprehensive 3D modeling plays a crucial role in the creation of interactive and realistic spaces, ranging from video games to augmented reality experiences.

Beyond its operational benefits, the comprehensive 3D modeling approach encourages greater creativity and innovation among professionals. It also allows them to experiment with new methods without the physical limitations of traditional models. In this context, a range of opportunities opens up for designers, engineers, and artists, who can materialize their ideas more quickly and effectively. This evolution makes it possible to create products and experiences that are not only technically advanced, but also meet the aesthetic and functional expectations of users.

In this sense, the Comprehensive 3D Modeling program offered by TECH combines theory and practice, allowing graduates to apply their knowledge in real projects. Throughout the degree, students will master key techniques such as organic modeling, texture modeling and hard surface modeling. Using state-of-the-art tools such as ZBrush, Substance Painter, Blender, 3DS Max and Unreal, among others, students will delve into essential elements for large-scale productions. With a duration of 24 months, an online methodology and a unique learning method, graduates will develop exceptional skills worthy of a high-level professional. Without schedules or limitations, and from anywhere in the world, this program trains expert leaders in their field.

This **Advanced Master's Degree in Comprehensive 3D Modeling** contains the most complete and up-to-date educational program on the market. Its most notable features are:

- The development of practical cases presented by experts in Comprehensive 3D modeling
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where the self-assessment process can be carried out to improve learning
- Special emphasis on innovative methodologies in Technology Project Management
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection

Learn today, create tomorrow and transform the future with your 3D vision only at TECH"

In this program you will learn to connect with new digital worlds and design the most innovative creations in the field of Comprehensive 3D Modeling"

TECH combines the best of traditional modeling and the most advanced technologies to create unique 3D experiences.

Meet the challenge of the 3D modeling professional by being creative, innovative and learning from anywhere in the world.

Its teaching staff includes professionals from the field of Technology Project Management, who bring their work experience to this program, as well as renowned specialists from leading companies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide an immersive learning experience designed to prepare for real-life situations.

This program is designed around Problem-Based Learning, whereby the student must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Why Study at TECH?

TECH is the world's largest online university. With an impressive catalog of more than 14,000 university programs available in 11 languages, it is positioned as a leader in employability, with a 99% job placement rate. In addition, it relies on an enormous faculty of more than 6,000 professors of the highest international renown.

Study at the world's largest online university and guarantee your professional success. The future starts at TECH"

The world's best online university according to FORBES

The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the world's best online university" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method aimed at educating the professionals of the future"

A world-class teaching staff

TECH's teaching staff is made up of more than 6,000 professors with the highest international recognition. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

The world's largest online university

TECH is the world's largest online university. We are the largest educational institution, with the best and widest online educational catalog, one hundred percent online and covering the vast majority of areas of knowledge. We offer a large selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university degrees, in eleven different languages, make us the largest educational largest in the world.

The most complete study plans on the university scene

TECH offers the most complete study plans on the university scene, with syllabuses that cover fundamental concepts and, at the same time, the main scientific advances in their specific scientific areas. In addition, these programs are continuously being updated to guarantee students the academic vanguard and the most in-demand professional skills. In this way, the university's qualifications provide its graduates with a significant advantage to propel their careers to success.

A unique learning method

TECH is the first university to use *Relearning* in all its programs. It is the best online learning methodology, accredited with international teaching quality certifications, provided by prestigious educational agencies. In addition, this disruptive educational model is complemented with the "Case Method", thereby setting up a unique online teaching strategy. Innovative teaching resources are also implemented, including detailed videos, infographics and interactive summaries.

The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

Leaders in employability

TECH has managed to become the leading university in employability. 99% of its students obtain jobs in the academic field they have studied, within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.

Google Premier Partner

The American technology giant has awarded to TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition as a Google Premier Partner not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.

The top-rated university by its students

Students have positioned TECH as the world's top-rated university on the main review websites, with a highest rating of 4.9 out of 5, obtained from more than 1,000 reviews. These results consolidate TECH as the benchmark university institution at an international level, reflecting the excellence and positive impact of its educational model.

03

Syllabus

The syllabus of the Comprehensive 3D Modeling program is designed to provide a complete and advanced specialization in all key areas of 3D modeling. Throughout this program, theory and practice will be combined, enabling graduates to apply their knowledge in real-world projects. In addition, specialized areas such as UV preparation and advanced texturing will be explored in depth, as well as the creation of models for large-scale productions. With a flexible and accessible approach, the syllabus seeks to prepare students to face the challenges of the labor market with confidence and competence.

With TECH, you will learn to transform your ideas into 3D realism, taking advantage of the latest in technology and creativity"

Module 1. Anatomy

1.1. General Skeletal Masses, Proportions
- 1.1.1. Bones
- 1.1.2. The Human Face
- 1.1.3. Anatomical Canons

1.2. Anatomical Differences between Genders and Sizes
- 1.2.1. Shapes Applied to Characters
- 1.2.2. Curves and Straight Lines
- 1.2.3. Behavior of Bones, Muscles and Skin

1.3. The Head
- 1.3.1. The Skull
- 1.3.2. Muscles of the Head
- 1.3.3. Layers: Skin, Bone and Muscle. Facial Expressions

1.4. The Torso
- 1.4.1. Torso Musculature
- 1.4.2. Central Axis of the Body
- 1.4.3. Different Torsos

1.5. The Arms
- 1.5.1. Joints: Shoulder, Elbow and Wrist
- 1.5.2. Arm Muscle Behavior
- 1.5.3. Detail of the Skin

1.6. Hand Sculpting
- 1.6.1. Hand Bones
- 1.6.2. Hand Muscles and Tendons
- 1.6.3. Hand Skin and Wrinkles

1.7. Leg Sculpting
- 1.7.1. Joints: Hip, Knee and Ankle
- 1.7.2. Muscles of the Leg
- 1.7.3. Detail of the Skin

1.8. Los pies
- 1.8.1. Bone Construction for the Foot
- 1.8.2. Foot Muscles and Tendons
- 1.8.3. Foot Skin and Wrinkles

1.9. Whole Human Figure Composition
- 1.9.1. Complete Creation of a Human Base
- 1.9.2. Joint and Muscle Attachment
- 1.9.3. Skin Composition, Pores and Wrinkles

1.10. Complete Human Model
- 1.10.1. Model Polishing
- 1.10.2. Hyper Skin Detail
- 1.10.3. Composition

Module 2. Retopology and Maya Modeling

2.1. Advanced Facial Retopology
- 2.1.1. Importing into Maya and the Use of Quad Draw
- 2.1.2. Retopology of the Human Face
- 2.1.3. Loops

2.2. Human Body Retopology
- 2.2.1. Creation of Loops in the Joints
- 2.2.2. Ngons and Tris and When to Use Them
- 2.2.3. Topology Refinement

2.3. Retopology of Hands and Feet
- 2.3.1. Movement of Small Joints
- 2.3.2. Loops and Support Edges to Improve the Base Mesh of Feet and Hands
- 2.3.3. Difference of Loops for Different Hands and Feet

2.4. Differences Between Maya Modeling vs. ZBrush Sculpting
- 2.4.1. Different Workflows for Modeling
- 2.4.2. Low Poly Base Model
- 2.4.3. High Poly Model

2.5. Creation of a Human Model from Scratch in Maya
- 2.5.1. Human Model Starting From the Hip
- 2.5.2. General Base Form
- 2.5.3. Hands and Feet and their Topology

2.6. Transformation of Low poly Model to High Poly
- 2.6.1. Zbrush
- 2.6.2. High Poly: Differences Between Divide and Dynamesh
- 2.6.3. Sculpting Form: Alternation Between Low Poly and High Poly

2.7. Application of Details in ZBrush: Pores, Capillaries, etc.
- 2.7.1. Alphas and Different Brushes
- 2.7.2. Detail: Dam-Standard Brush
- 2.7.3. Projections and Surfaces in ZBrush

2.8. Advanced Eye Creation in Maya
- 2.8.1. Creation of the Spheres: Sclera, Cornea and Iris
- 2.8.2. Lattice Tool
- 2.8.3. Displacement Map from ZBrush

2.9. Use of Deformers in Maya
- 2.9.1. Maya Deformers
- 2.9.2. Topology Movement: Polish
- 2.9.3. Polishing of the Final Mesh

2.10. Creation of Final Uv's and Application of Displacement Mapping
- 2.10.1. Character Uv's and Importance of Sizes
- 2.10.2. Texturing
- 2.10.3. Displacement Map

Module 3. UVs and Texturing with Allegorithmic Substance Painter and Mari

3.1. Creation of High-Level UVs in Maya
- 3.1.1. Facial UVs
- 3.1.2. Creation and Layout
- 3.1.3. Advanced UV´s

3.2. UV Preparation for UDIM Systems Focused on High Throughput Models
- 3.2.1. UDIM
- 3.2.2. UDIM in Maya
- 3.2.3. Textures in 4K

3.3. XYZ Textures: What They Are and How to Use Them
- 3.3.1. XYZ. Hyperrealism
- 3.3.2. MultiChannel Maps
- 3.3.3. Texture Maps

3.4. Texturing: Video Games and Film
- 3.4.1. Substance Painter
- 3.4.2. Mari
- 3.4.3. Types of Texturing

3.5. Texturing in Substance Painter for Videogames
- 3.5.1. Baking from High to Low Poly
- 3.5.2. PBR Textures and Their Importance
- 3.5.3. ZBrush with Substance Painter

3.6. Finalizing our Substance Painter Textures
- 3.6.1. Scattering, Translucency
- 3.6.2. Model Texturing
- 3.6.3. Scars, Freckles, Tattoos, Paints or Makeup

3.7. Hyper-Realistic Facial Texturing with XYZ Textures and Color Mapping
- 3.7.1. XYZ Textures in ZBrush
- 3.7.2. Wrap
- 3.7.3. Correction of Errors

3.8. Hyper-Realistic Facial Texturing with XYZ Textures and Color Mapping
- 3.8.1. Mari's Interface
- 3.8.2. Texturing in Mari
- 3.8.3. Projection of Skin Textures

3.9. Advanced Detailing of Displacements Maps in Zbrush and Mari
- 3.9.1. Texture Painting
- 3.9.2. Displacement for Hyperrealism
- 3.9.3. Creation of Layers

3.10. Shading and Texture Implementation in Maya
- 3.10.1. Skin Shaders in Arnold
- 3.10.2. Hyper-realistic Eye
- 3.10.3. Touch-ups and Tips

Module 4. Rendering, Lighting and Posing of Models

4.1. Characters Posing in ZBrush
- 4.1.1. Rig in Zbrush with ZSpheres
- 4.1.2. Transpose Master
- 4.1.3. Professional Finish

4.2. Rigging and Weighting of our Own Skeleton in Maya
- 4.2.1. Rig in Maya
- 4.2.2. Rigging Tools with Advanced Skeleton
- 4.2.3. Rig Weighting

4.3. Blend Shapes to Give Life to Your Character's Face
- 4.3.1. Facial Expressions
- 4.3.2. Blend Shapes of Maya
- 4.3.3. Animation with Maya

4.4. Mixamo, a Quick Way to Present Our Model
- 4.4.1. Mixamo
- 4.4.2. Mixamo Rigs
- 4.4.3. Animations

4.5. Lighting Concepts
- 4.5.1. Lighting Techniques
- 4.5.2. Light and Color
- 4.5.3. Shade

4.6. Arnold Render Lights and Parameters
- 4.6.1. Lights with Arnold and Maya
- 4.6.2. Lighting Control and Parameters
- 4.6.3. Arnold Parameters and Configuration

4.7. Lighting of our Models in Maya with Arnold Render
- 4.7.1. Lighting Set Up
- 4.7.2. Model Lighting
- 4.7.3. Mixing Light and Color

4.8. Going Deeper in Arnold: Denoising and the Different AOV
- 4.8.1. AOV
- 4.8.2. Advanced Noise Treatment
- 4.8.3. Denoiser

4.9. Post-Production Rendering in Photoshop
- 4.9.1. Image Processing
- 4.9.2. Photoshop: Levels and Contrasts
- 4.9.3. Layers: Characteristics and their Effects

Module 5. Hair Creation for Video Games and Movies

5.1. Differences Between Video Game Hair and Film Hair
- 5.1.1. FiberMesh and Cards
- 5.1.2. Tools for Hair Creation
- 5.1.3. Hair Software

5.2. ZBrush Hair Sculpting
- 5.2.1. Basic Shapes for Hairstyles
- 5.2.2. Creating Brushes in ZBrush for Hair
- 5.2.3. Curve Brushes

5.3. Hair Creation in XGen
- 5.3.1. XGen
- 5.3.2. Collections and Descriptions
- 5.3.3. Hair vs. Grooming

5.4. Xgen Modifiers: Give Realism to Hair
- 5.4.1. Clumping
- 5.4.2. Coil
- 5.4.3. Hair Guides

5.5. Color and Region Maps: for Absolute Hair Control
- 5.5.1. Maps of Hair Regions
- 5.5.2. Cuts: Curly, Shaved and Long Hair
- 5.5.3. Micro Detail: Facial Hair

5.6. Advanced Xgen: Use of Expressions and Refinement
- 5.6.1. Expressions
- 5.6.2. Utilities
- 5.6.3. Hair Refinement

5.7. Cards Placement in Maya for Video Game Modeling
- 5.7.1. Fibers in Cards
- 5.7.2. Cards by Hand
- 5.7.3. Cards and Real-Time Engine

5.8. Optimization for Movies
- 5.8.1. Optimization of the Hair and its Geometry
- 5.8.2. Preparation for Physics with Movements
- 5.8.3. XGen Brushes

5.9. Hair Shading
- 5.9.1. Arnold Shader
- 5.9.2. Hyper-Realistic Look
- 5.9.3. Hair Treatment

5.10. Render
- 5.10.1. Rendering When Using XGen
- 5.10.2. Lighting
- 5.10.3. Noise Elimination

Module 6. Clothing Simulation

6.1. Importing your Model to Marvelous Designer and Program Interface
- 6.1.1. Marvelous Designer
- 6.1.2. Software Functionality
- 6.1.3. Real-Time Simulations

6.2. Creation of Simple Patterns and Clothing Accessories
- 6.2.1. Creations: T-shirts, Accessories, Hats and Pockets
- 6.2.2. Fabric
- 6.2.3. Patterns, Zippers and Seams

6.3. Creation of Advanced Clothing: Complex Patterns
- 6.3.1. Pattern Complexity
- 6.3.2. Physical Qualities of Fabrics
- 6.3.3. Complex Accessories

6.4. Clothing Simulation at Marvelous
- 6.4.1. Animated Models at Marvelous
- 6.4.2. Fabric Optimization
- 6.4.3. Model Preparation

6.5. Export of Clothing from Marvelous Designer to ZBrush
- 6.5.1. Low Poly in Maya
- 6.5.2. UV in Maya
- 6.5.3. Zbrush, Use of Reconstruct Subdiv

6.6. Refinement of Clothing
- 6.6.1. Workflow
- 6.6.2. Details in Zbrush
- 6.6.3. Clothing Brushes in Zbrush

6.7. Improve the Simulation with ZBrush
- 6.7.1. From Tris to Quads
- 6.7.2. UV's Maintenance
- 6.7.3. Final Carving

6.8. High Detail Clothing Texturing in Mari
- 6.8.1. Tileable Textures and Fabric Materials
- 6.8.2. Baking
- 6.8.3. Texturing in Mari

6.9. Maya Fabric Shading
- 6.9.1. Shading
- 6.9.2. Textures Created in Mari
- 6.9.3. Realism with Arnold Shaders

6.10. Render
- 6.10.1. Clothing Rendering
- 6.10.2. Illumination in Clothing
- 6.10.3. Texture Intensity

Module 7. Stylized Characters

7.1. Choice of a Stylized Character and Blocking of Base Forms
- 7.1.1. References and Concept Arts
- 7.1.2. Base Forms
- 7.1.3. Deformities and Fantastic Shapes

7.2. Conversion of our Low Poly to High Poly Model: Head, Hair and Face Sculpting
- 7.2.1. Head Blocking
- 7.2.2. New Hair Creation Techniques
- 7.2.3. Improvements

7.3. Model Refinement: Hands and Feet
- 7.3.1. Advanced Sculpting
- 7.3.2. Refinement of General Shapes
- 7.3.3. Shape Cleaning and Smoothing

7.4. Creation of Jaw and Teeth
- 7.4.1. Creation of Human Teeth
- 7.4.2. Increase its Polygons
- 7.4.3. Fine Detailing of Teeth in ZBrush

7.5. Modeling Clothing and Accessories
- 7.5.1. Types of Cartoon Clothing
- 7.5.2. Zmodeler
- 7.5.3. Applied Maya Modeling

7.6. Retopology and Clean Topology Creation from Scratch
- 7.6.1. Retopology
- 7.6.2. Loops According to the Model
- 7.6.3. Optimization of the Mesh

7.7. UV Mapping and Baking
- 7.7.1. UV
- 7.7.2. Substance Painter: Baking
- 7.7.3. Polishing Baking

7.8. Texturing and Painting In Substance Painter
- 7.8.1. Substance Painter: Texturing
- 7.8.2. Hand Painted Cartoon Techniques
- 7.8.3. Fill Layers with Generators and Masks

7.9. Lighting and Rendering
- 7.9.1. Lighting of Our Character
- 7.9.2. Color Theory and Presentation
- 7.9.3. Substance Painter: Render

7.10. Posing and Final Presentation
- 7.10.1. Diorama
- 7.10.2. Posing Techniques
- 7.10.3. Presentation of Models

Module 8. Creature Modeling

8.1. Understanding Animal Anatomy
- 8.1.1. Study of the Bones
- 8.1.2. Proportions of an Animal Head
- 8.1.3. Anatomic Differences

8.2. Anatomy of the Skull
- 8.2.1. Animal Face
- 8.2.2. Muscles of the Head
- 8.2.3. Skin Layer, Over Bones and Muscles

8.3. Anatomy of the Spine and Thoracic Cage
- 8.3.1. Animal Torso and Hip Musculature
- 8.3.2. Central Axis of its Body
- 8.3.3. Creation of Torsos in Different Animals

8.4. Animal Musculature
- 8.4.1. Muscle
- 8.4.2. Synergy Between Muscles and Bones
- 8.4.3. Shapes of an Animal Body

8.5. Reptiles and Amphibians
- 8.5.1. Reptilian Skin
- 8.5.2. Small Bones and Ligaments
- 8.5.3. Fine Detail

8.6. Mammals
- 8.6.1. Fur
- 8.6.2. Larger, Stronger Bones and Ligaments
- 8.6.3. Fine Detail

8.7. Animals with Feathers
- 8.7.1. Plumage
- 8.7.2. Elastic and Light Bones and Ligaments
- 8.7.3. Fine Detail

8.8. Analysis of the Jaw and Creation of Teeth
- 8.8.1. Animal Specific Teeth
- 8.8.2. Detailing of Teeth
- 8.8.3. Teeth in the Jaw Cavity

8.9. Creation of Fur, Fur for Animals
- 8.9.1. XGen in Maya: Grooming
- 8.9.2. XGen: Feathers
- 8.9.3. Render

8.10. Fantastic Animals
- 8.10.1. Fantastic Animal
- 8.10.2. Complete Modeling of the Animal
- 8.10.3. Texturing, Lighting and Rendering

Module 9. Blender: A New Twist in the Industry

9.1. Blender vs Zbrush
- 9.1.1. Advantages and Differences
- 9.1.2. Blender and the 3D Art Industry
- 9.1.3. Advantages and Disadvantages of Freeware

9.2. Blender Interface and Program Knowledge
- 9.2.1. Interface
- 9.2.2. Customization
- 9.2.3. Experimentation

9.3. Head Sculpting and Transpolation of Controls from ZBrush to Blender
- 9.3.1. The Human Face
- 9.3.2. 3D Sculpting
- 9.3.3. Blender Brushes

9.4. Full Body Sculpting
- 9.4.1. The Human Body
- 9.4.2. Advanced Techniques.
- 9.4.3. Detail and Refinement

9.5. Retopology and UV in Blender
- 9.5.1. Retopology
- 9.5.2. UV
- 9.5.3. Blender UDIMs

9.6. From Maya to Blender
- 9.6.1. Hard Surface
- 9.6.2. Modifiers
- 9.6.3. Keyboard Shortcuts

9.7. Blender Tips & Tricks
- 9.7.1. Range of Possibilities
- 9.7.2. Geometry Nodes
- 9.7.3. Workflow

9.8. Nodes in Blender: Shading and Texture Placement
- 9.8.1. Nodal System
- 9.8.2. Shaders Through Nodes
- 9.8.3. Textures and Materials

9.9. Rendering in Blender with Cycles and Eevee
- 9.9.1. Cycles
- 9.9.2. Eevee
- 9.9.3. Lighting

9.10. Implementation of Blender in Our Workflow as Artists
- 9.10.1. Implementation in the Workflow
- 9.10.2. Search for Quality
- 9.10.3. Types of Exports

Module 10. Organic Environment Creation in Unreal Engine

10.1. Unreal Engine Configuration and Project Organization
- 10.1.1. Interface and Configuration
- 10.1.2. Folder Organization
- 10.1.3. Search for Ideas and References

10.2. Blocking an Environment in Unreal Engine
- 10.2.1. Primary, Secondary and Tertiary PST Elements
- 10.2.2. Scene Design
- 10.2.3. Storytelling

10.3. Terrain Modeling: Unreal Engine and Maya
- 10.3.1. Unreal Terrain
- 10.3.2. Terrain Sculpting
- 10.3.3. Heightmaps: Maya

10.4. Modeling Techniques
- 10.4.1. Rock Sculpting
- 10.4.2. Rock Brushes
- 10.4.3. Cliffs and Optimization

10.5. Creation of Vegetation
- 10.5.1. Speedtree Software
- 10.5.2. Low Poly Vegetation
- 10.5.3. Unreal's Foliage System

10.6. Texturing in Substance Painter and Mari
- 10.6.1. Stylized Terrain
- 10.6.2. Hyper-realistic Texturing
- 10.6.3. Tips and Guidelines

10.7. Photogrammetry
- 10.7.1. Megascan Library
- 10.7.2. Agisoft Metashape Software
- 10.7.3. Model Optimization

10.8. Shading and Materials in Unreal Engine
- 10.8.1. Blending of Textures
- 10.8.2. Material Settings
- 10.8.3. Final Touches

10.9. Lighting and Post-production of our Environment in Unreal Engine
- 10.9.1. Scene Look
- 10.9.2. Types of Lights and Atmospheres
- 10.9.3. Particles and Fog

10.10. Cinematic Rendering
- 10.10.1. Camera Techniques
- 10.10.2. Video and Screen Capture
- 10.10.3. Presentation and Final Finishing

Module 11. 3D Modeling with 3DS Max

11.1. 3D Modeling with 3DS Max
- 11.1.1. Orbit, Viewers and Views
- 11.1.2. Geometry Display Modes
- 11.1.3. Steering Wheels

11.2. Transformations and Geometry
- 11.2.1. Interactive and Parametric Transformations
- 11.2.2. Standard and Extended Primitives
- 11.2.3. Scaling Transformation
- 11.2.4. Select and Place / Select and Rotate
- 11.2.5. Align and Symmetry

11.3. Main Operations
- 11.3.1. Duplicate, Interactive Selection and Selection Groups and Elements
- 11.3.2. Layers, Grid, Snap and Pivot Point
- 11.3.3. Links, Coordinate Systems, Actions, Views and Isolate Geometry

11.4. Parametric Modifiers
- 11.4.1. Bend, Taper, Skew and Twist
- 11.4.2. Stretch and Squeeze
- 11.4.3. Ripple, Wave and Noise
- 11.4.4. Spherify, Lattice and Mirror
- 11.4.5. Push and Relax
- 11.4.6. Slice, Shell and CapHoles

11.5. Free Deformation Modifiers
- 11.5.1. FFD Modifiers
- 11.5.2. FFD Cyl
- 11.5.3. FFD Box

11.6. Composition Objects
- 11.6.1. Boolean Operations. Boolean and ProBoolean
- 11.6.2. Objects Dispersion. Scatter
- 11.6.3. Morphism. Morph

11.7. 2D Shapes. Splines
- 11.7.1. Splines and its Options
- 11.7.2. The Line and Vertex Types
- 11.7.3. Vertex, Segment and Splines Subobjects

11.8. 2D Shapes. Advanced Splines
- 11.8.1. Editable Splines and Use of Grid and Snap to Create 2D Shapes
- 11.8.2. Parametric Modifiers, FFD and Booleans with Splines
- 11.8.3. Extended Splines and Section

11.9. Modifiers of splines
- 11.9.1. Extrude
- 11.9.2. Bevel
- 11.9.3. Sweep
- 11.9.4. Lathe

11.10. Composition Objects. Splines
- 11.10.1. Loft
- 11.10.2. Terrain
- 11.10.3. Shape Merge

Module 12. Advanced 3D Modeling with 3DS Max

12.1. Mesh Editing. Polygonal Editing
- 12.1.1. Polygonal Editing. EditablePoly and EditPoly
- 12.1.2. Panels, Selection and Flexible Selection
- 12.1.3. TurboSmooth, MeshSmooth and HSDS Modifier

12.2. Mesh Editing. Geometry
- 12.2.1. Vertex, Edge and Edge Editing
- 12.2.2. Polygon, Element and Geometry Editing
- 12.2.3. Geometry. Cutting Planes and Added Resolution

12.3. Mesh Editing. Selection Groups
- 12.3.1. Geometry Alignment and Visibility
- 12.3.2. Selection. Subobjects, Material IDs and Smoothing Groups
- 12.3.3. Surface Subdivision and Vertex Painting

12.4. Mesh Editing. Surface
- 12.4.1. Geometry Displacement and Deformation Brush
- 12.4.2. Flat Mode and EditableMesh
- 12.4.3. Splines + Surface

12.5. Advanced Mesh Editing
- 12.5.1. EditablePatch
- 12.5.2. Model Sheet and Setup for Modeling
- 12.5.3. Symmetry. Tracing and Symmetry

12.6. User Customization
- 12.6.1. Display Floater Tool and Panel Display
- 12.6.2. Object Properties and Preferences
- 12.6.3. UI Personalization. Shortcuts, Menus and Colors
- 12.6.4. Viewer Configuration

12.7. Object Distribution
- 12.7.1. Orthographic View
- 12.7.2. Spacing Tool and SnapShot
- 12.7.3. Cloning and Alignment Tool
- 12.7.4. Matrices. Array

12.8. Geometric Operations
- 12.8.1. Polygonal and Parametric Combination
- 12.8.2. Polygonal Combination and Shapes
- 12.8.3. Polygonal and Boolean Combination
- 12.8.4. Polygonal, Spline, Parametric and Boolean Combination

12.9. Other Tools
- 12.9.1. Loops, Constraints and Edge Splitting
- 12.9.2. Isoline and Collapse Modifiers
- 12.9.3. Polygon Counter and Types of Optimization

12.10. Plugins and Scripts
- 12.10.1. Plugins and Scripts. Grass-o-Matic
- 12.10.2. Creation of Herbs and Fibers with Grass-o-Matic
- 12.10.3. Plugin Greeble
- 12.10.4. Script Voronoi. Fracture

Module 13. 3D Modeling with Graphite Tool

13.1. Interface
- 13.1.1. Functionality
- 13.1.2. Enable the Tool
- 13.1.3. Interface

13.2. Sub-objects and Selection
- 13.2.1. Subobjects
- 13.2.2. Modify Topology
- 13.2.3. Modify Selection

13.3. Edition
- 13.3.1. Swift Loop
- 13.3.2. Paint Connect
- 13.3.3. Constraints

13.4. Geometry
- 13.4.1. Relax
- 13.4.2. Attach and Detach
- 13.4.3. Create and Collapse
- 13.4.4. Quadrify and Slice

13.5. Tools Similar to the Polygonal Mode
- 13.5.1. Polygons
- 13.5.2. Loops
- 13.5.3. Tris
- 13.5.4. Subdivisions
- 13.5.5. Visibility
- 13.5.6. Align
- 13.5.7. Smoothing and Hardening

13.6. PolyDraw 1
- 13.6.1. Drag and Conform
- 13.6.2. Step Build Over the Grid
- 13.6.3. Step Build Over a Surface

13.7. PolyDraw 2
- 13.7.1. Shapes and Topology
- 13.7.2. Splines and Strips
- 13.7.3. Surface and Branches

13.8. PaintDeform
- 13.8.1. Pincel Shift and its Options
- 13.8.2. Pincel Push/Pull and its Options
- 13.8.3. Mirror and Other Options

13.9. Selection
- 13.9.1. Closed and Open Selections and Saving Selections
- 13.9.2. Select by Surfaces, Normals, Perspective or Random Parameters
- 13.9.3. Select by Vertex, Distance, Symmetry or Color

13.10. Painting with Objects
- 13.10.1. Catalog of Objects
- 13.10.2. Brush Options
- 13.10.3. Functionality

Module 14. 3D Modeling with ZBrush

14.1. ZBrush
- 14.1.1. Interface and Basic Controls
- 14.1.2. Subtools, Symmetry, Transpose and Deformation
- 14.1.3. Brushes and Alphas

14.2. Main Tools
- 14.2.1. Masks and Polygroups
- 14.2.2. Subdivisions, Dynamesh y ZRemesher
- 14.2.3. Modify Topology, Matcaps and BPR

14.3. Modification Tools
- 14.3.1. Insert Multi Mesh
- 14.3.2. Layers and Morph Target
- 14.3.3. Projections and Extract

14.4. Advanced Tools
- 14.4.1. Crease and Bevel
- 14.4.2. Surface and Shadowbox
- 14.4.3. Decimation Master

14.5. ZSpheres and Adaptive Skin
- 14.5.1. ZSpheres Controls
- 14.5.2. ZSketch
- 14.5.3. Adaptive Skin

14.6. Dynamesh and Advanced Zremesher
- 14.6.1. Booleans
- 14.6.2. Brushes
- 14.6.3. Zremesher using Guides

14.7. Curve Brushes
- 14.7.1. Controls and Modifiers
- 14.7.2. Curve Surface and Other Brushes
- 14.7.3. Creating Brushes with Curve

14.8. Hard Surface
- 14.8.1. Segments with Masks
- 14.8.2. Polygroupit
- 14.8.3. Panel Loops
- 14.8.4. ZModeler
- 14.8.5. Primitives

14.9. Modifiers
- 14.9.1. Extend and Multi Slice
- 14.9.2. Deformer and Blend Twist
- 14.9.3. Taper and Flatten
- 14.9.4. Bend Arc and Bend Curve

14.10. Transpose Master
- 14.10.1. Posing a Character with Transpose Master
- 14.10.2. Detail Correction
- 14.10.3. Prepare Character for Rendering

Module 15. Texturing

15.1. Texturing
- 15.1.1. Baking
- 15.1.2. PBR. Physycally Based Rendering
- 15.1.3. Basic and Composite Texturing
- 15.1.4. Tileable Textures

15.2. Mapping Coordinates. UV
- 15.2.1. Unwrap and Seams
- 15.2.2. UVW Editor
- 15.2.3. Editor Options

15.3. Object ID
- 15.3.1. ID Assignment and Functionality
- 15.3.2. Multisubject Material
- 15.3.3. Application of Materials as Instances

15.4. HighPoly and Normal Baking in 3DS Max
- 15.4.1. HighPoly and LowPoly
- 15.4.2. Projection Settings for Normal Map Baking
- 15.4.3. Normal Map Texture Baking
- 15.4.4. Normal Map Settings

15.5. Bake Other Materials in 3DS Max
- 15.5.1. Application and Bakeo Fuzzy Map
- 15.5.2. Composite Material
- 15.5.3. Mask Adjustment

15.6. Retopology in 3DS Max
- 15.6.1. Retopology Tools
- 15.6.2. Retopology with Graphite Tool
- 15.6.3. Rhetopology Settings

15.7. Texturing with 3DS Max
- 15.7.1. Material Properties
- 15.7.2. Texture Baking
- 15.7.3. Texture Baking. Complete Map, Normal Map and AO Map

15.8. Texturing with Photoshop
- 15.8.1. Coordinate Template
- 15.8.2. Adding details in Photoshop and Reimporting Template with Textures
- 15.8.3. Shading a Texture
- 15.8.4. Create Normal Map

15.9. Mapping coordinates with Zbrush
- 15.9.1. UV Master
- 15.9.2. Control Painting
- 15.9.3. Unwrap and Flatten

15.10. Texturing with Zbrush
- 15.10.1. Painting Mode
- 15.10.2. Noise Maker
- 15.10.3. Projection of Images

Module 16. Substance Painter Texturing

16.1. Substance Painter
- 16.1.1. Create New Project and Reimport Models
- 16.1.2. Basic Controls and Interface. 2D and 3D Views
- 16.1.3. Baking

16.2. Baking Layers
- 16.2.1. World Space Normal
- 16.2.2. Ambient Occlusion
- 16.2.3. Curvature
- 16.2.4. Position
- 16.2.5. ID, Normal, Thickness

16.3. Layers
- 16.3.1. Base Color
- 16.3.2. Roughness
- 16.3.3. Metallic
- 16.3.4. Material

16.4. Masks and Generators
- 16.4.1. Layers and UVs
- 16.4.2. Masks
- 16.4.3. Procedural Generators

16.5. Base Material
- 16.5.1. Types of Material
- 16.5.2. Customized Generators
- 16.5.3. Creation of a Base Material from Scratch

16.6. Brushes
- 16.6.1. Predefined Parameters and Brushes
- 16.6.2. Alphas, Lazy Mouse and Symmetry
- 16.6.3. Create Custom Brushes and Save Them

16.7. Particles
- 16.7.1. Particle Brushes
- 16.7.2. Properties of Particles
- 16.7.3. Particles Using Masks

16.8. Projections
- 16.8.1. Preparing Textures
- 16.8.2. Stencil
- 16.8.3. Cloning

16.9. Substance Share/Source
- 16.9.1. Substance Share
- 16.9.2. Substance Source
- 16.9.3. Textures.com

16.10. Terminology
- 16.10.1. Normal Map
- 16.10.2. Padding or Bleed
- 16.10.3. Mipmapping

Module 17. Rendering

17.1. Marmoset Toolbag
- 17.1.1. Geometry Preparation and FBX Formatting
- 17.1.2. Basic Concepts. Importance of Geometry
- 17.1.3. Links and Materials

17.2. Marmoset Toolbag Sky
- 17.2.1. Environmental Setting
- 17.2.2. Lighting Points
- 17.2.3. Lights outside Sky

17.3. Marmoset Toolbag Details
- 17.3.1. Shade and Pose
- 17.3.2. Procedural Materials
- 17.3.3. Channels and Reflection

17.4. Real-Time Rendering with Marmoset Toolbag
- 17.4.1. Image Export with Transparency
- 17.4.2. Interactive Export. Marmoset Viewer
- 17.4.3. Film Export

17.5. Marmoset Toolbag. Animated Cameras
- 17.5.1. Model Preparation
- 17.5.2. Cameras
- 17.5.3. Main Camera. Interactive Animation

17.6. Marmoset Toolbag. Advanced Animated Cameras
- 17.6.1. Adding New Cameras
- 17.6.2. Parametric Animation
- 17.6.3. Final Details

17.7. Marmoset Toolbag 4. Raytrace
- 17.7.1. Subsurface
- 17.7.2. Ray Tracing
- 17.7.3. Adding Cameras and Map Rendering

17.8. Substance Painter Rendering IRay
- 17.8.1. IRay Settings
- 17.8.2. Viewer Settings
- 17.8.3. Display Settings

17.9. Rendering with ZBRush
- 17.9.1. Material Settings
- 17.9.2. BPR Render and Lights
- 17.9.3. BPR Masks and Final Rendering in Photoshop

17.10. Keyshot Rendering
- 17.10.1. From Zbrush to Keyshot
- 17.10.2. Materials and Lighting
- 17.10.3. Photoshop Compositing and Final Image

Module 18. Rendering with VRay Engine in 3DS Max

18.1. VRay Render Engine Assignment
- 18.1.1. Preparation of the Rendering Space
- 18.1.2. Render Setup Options and Assign Render
- 18.1.3. Optimize Rendering Time

18.2. Lighting and Light Creation
- 18.2.1. 3-Point Lighting
- 18.2.2. Light Setup
- 18.2.3. Render Region

18.3. Creation and Application of Materials
- 18.3.1. VRay Materials
- 18.3.2. VRay Materials Settings
- 18.3.3. Self-Illumination

18.4. From Substance Painter to VRay
- 18.4.1. Connect Nodes and Material Settings
- 18.4.2. Export Presets
- 18.4.3. Set Up Smart Material in VRay

18.5. Details and Positioning in the Scene
- 18.5.1. Application of Shades According to the Position of the Model
- 18.5.2. Adjust Model and Silhouette
- 18.5.3. Metallic Base

18.6. Surface Rounding
- 18.6.1. VRayEdgeTex
- 18.6.2. Functionality and Setup
- 18.6.3. Rendering With and Without Rounding

18.7. Field of View
- 18.7.1. Camera and Shot
- 18.7.2. Camera Aperture
- 18.7.3. Field of View

18.8. Ambient Occlusion and Global Illumination
- 18.8.1. GI and Render Elements
- 18.8.2. VRayExtraTex and VrayDirt
- 18.8.3. Global Illumination Multiplier

18.9. Rendering of a Static Frame
- 18.9.1. Adjust Render Values
- 18.9.2. Save Final Render
- 18.9.3. Composition of Ambient Occlusion

18.10. Rendering of a Sequence
- 18.10.1. Camera Animation
- 18.10.2. Rendering Options for Sequence
- 18.10.3. Frame Assembly for the Sequence

Module 19. Characters

19.1. Types of Characters
- 19.1.1. Realistic and Cartoon/Stylized
- 19.1.2. Humanoids and Creatures
- 19.1.3. Anatomy and Proportions

19.2. Tips for working with ZBrush
- 19.2.1. Working with References and Transparencies. Fitting and Transformation from 2D to 3D
- 19.2.2. Joining Parts with Dynamesh. Working in Pieces or in Conjunction with Polygroups and ZRemesher
- 19.2.3. Lazy Mouse and GoZ

19.3. Sculpting a head in ZBrush
- 19.3.1. Primary Shapes and Proportions
- 19.3.2. Eyelids and Eyes
- 19.3.3. Nose, Ears and Lips
- 19.3.4. ZRemesher for Heads
- 19.3.5. Eyebrows and Eyelashes
- 19.3.6. Details and Refinement

19.4. Apparel
- 19.4.1. Clothing
- 19.4.2. Armor
- 19.4.3. Modeled Details and with Noise Maker

19.5. Tips for Modeling
- 19.5.1. Hands
- 19.5.2. Styled Hair
- 19.5.3. Extra Details with Alphas

19.6. Tips for Modeling Types of Materials
- 19.6.1. Feathers
- 19.6.2. Rocks or Minerals
- 19.6.3. Scales

19.7. Hair with ZBrush
- 19.7.1. Curve Brushes
- 19.7.2. Long Hair with Curve brush
- 19.7.3. Short Hair or Animal Hair

19.8. Hair with Xgen
- 19.8.1. References and Tool Preparation
- 19.8.2. Application of Modifiers and Tools in Depth
- 19.8.3. Lighting and Rendering

19.9. Posed with Transpose Master
- 19.9.1. TPoseMesh. Working with Smooth Masks, Move and Rotate
- 19.9.2. The Importance of the Silhouette
- 19.9.3. TPose SubtTool. Correct and Finish Detailing

19.10. Character Props and Environment
- 19.10.1. Accessories and Weapons. Elements that Speak of the Character's History
- 19.10.2. Elements of the Environment and Background. Enhancing the Character
- 19.10.3. Own Lighting for the Character

Module 20. Exports to Unreal

20.1. Unreal Engine
- 20.1.1. Game Exporter
- 20.1.2. Create New Project and Controls
- 20.1.3. Importing Models into Unreal

20.2. Basic Properties of Materials
- 20.2.1. Create Materials and Nodes
- 20.2.2. Constant and Its Values
- 20.2.3. Texture Sample

20.3. Common Material Nodes
- 20.3.1. Multiply
- 20.3.2. Texture Coordinate
- 20.3.3. Add
- 20.3.4. Fresnel
- 20.3.5. Panner

20.4. Materials and Bloom
- 20.4.1. Linear Interpolate
- 20.4.2. Power
- 20.4.3. Clamp

20.5. Textures to Modify the Material
- 20.5.1. Masks
- 20.5.2. Transparent Textures
- 20.5.3. Match Color

20.6. Basic Lighting
- 20.6.1. Light Source
- 20.6.2. Skylight
- 20.6.3. Fog

20.7. Fill and Creative Lighting
- 20.7.1. Point Light
- 20.7.2. Spot Light y Rect Light
- 20.7.3. Objects as Light Sources

20.8. Night Lighting
- 20.8.1. Light Source Properties
- 20.8.2. Fog Properties
- 20.8.3. Skylight Properties

20.9. Lightmaps
- 20.9.1. Viewer Modes. Lightmap Density
- 20.9.2. Improve Lightmaps Resolution
- 20.9.3. Lightmass Importance Volume

20.10. Rendering
- 20.10.1. Cameras and Their Parameters
- 20.10.2. Basic Post-Processing
- 20.10.3. High-Resolution Screenshot

Module 21. Study of Figure and Shape

21.1. The Geometric Figure
- 21.1.1. Types of Geometrical Figures
- 21.1.2. Basic Geometric Constructions
- 21.1.3. Geometric Transformations on the Plane

21.2. Polygons
- 21.2.1. Triangles
- 21.2.2. Quadrilaterals
- 21.2.3. Regular Polygons

21.3. Axonometric System
- 21.3.1. System Fundamentals
- 21.3.2. Types of Orthogonal Axonometry
- 21.3.3. Sketches

21.4. Three-Dimensional Drawing
- 21.4.1. Perspective and Third Dimension
- 21.4.2. Essential Elements of Drawing
- 21.4.3. Perspectives

21.5. Technical Drawing
- 21.5.1. Basic Notions
- 21.5.2. Disposition of Views
- 21.5.3. Cuts

21.6. Fundamentals of Mechanical Elements I
- 21.6.1. Axes
- 21.6.2. Joints and Bolts
- 21.6.3. Springs

21.7. Fundamentals of Mechanical Elements II
- 21.7.1. Bearings
- 21.7.2. Gears
- 21.7.3. Flexible Mechanical Elements

21.8. Laws of Symmetry
- 21.8.1. Translation – Rotation – Reflection - Extension
- 21.8.2. Touch – Overlay – Subtract – Intersect - Join
- 21.8.3. Combined Laws

21.9. Form Analysis
- 21.9.1. Form and Function
- 21.9.2. Mechanical Form
- 21.9.3. Types of Shapes

21.10. Topological Analysis
- 21.10.1. Morphogenesis
- 21.10.2. Composition
- 21.10.3. Morphology and Topology

Module 22. Hard Surface Modeling

22.1. Hard Surface Modeling
- 22.1.1. Topology Control
- 22.1.2. Function Communication
- 22.1.3. Speed and Efficiency

22.2. Hard Surface I
- 22.2.1. Hard Surface
- 22.2.2. Development
- 22.2.3. Structure

22.3. Hard Surface II
- 22.3.1. Applications
- 22.3.2. Physical Industry
- 22.3.3. Virtual Industry

22.4. Types of Modeling
- 22.4.1. Technical Modeling / NURBS
- 22.4.2. Polygonal Modeling
- 22.4.3. Sculpt Modeling

22.5. Hard Surface Modeling
- 22.5.1. Profiles
- 22.5.2. Topology and Edge Flow
- 22.5.3. Mesh Resolution

22.6. NURBS Model
- 22.6.1. Dots – Lines – Polylines - Curves
- 22.6.2. Surfaces
- 22.6.3. 3D Geometry

22.7. Fundamentals of Polygonal Modeling
- 22.7.1. Edit Poly
- 22.7.2. Vertices – Edges - Polygons
- 22.7.3. Surgery

22.8. Fundamentals of Sculpt Modeling
- 22.8.1. Basic Geometry
- 22.8.2. Subdivisions
- 22.8.3. Deformities

22.9. Topology and Retopology
- 22.9.1. High Poly and Low Poly
- 22.9.2. Polygonal Count
- 22.9.3. Bake Maps

22.10. UV Maps
- 22.10.1. UV Coordinates
- 22.10.2. Techniques and Strategies
- 22.10.3. Unwrapping

Module 23. Technical Modeling in Rhino

23.1. Rhino Modeling
- 23.1.1. Rhino Interface
- 23.1.2. Types of Objects
- 23.1.3. Navigating the Model

23.2. Fundamental Notions
- 23.2.1. Editing with Gumball
- 23.2.2. Viewports
- 23.2.3. Modeling Support

23.3. Precision Modeling
- 23.3.1. Input by Coordinates
- 23.3.2. Distance and Angle Restriction Input
- 23.3.3. Object Restriction

23.4. Command Analysis
- 23.4.1. Additional Modeling Support
- 23.4.2. SmartTrack
- 23.4.3. Construction Planes

23.5. Lines and Polylines
- 23.5.1. Circles
- 23.5.2. Free-Form Lines
- 23.5.3. Helix and Spiral

23.6. Geometry Editing
- 23.6.1. Fillet and Chamfer
- 23.6.2. Mixture of Curves
- 23.6.3. Loft

23.7. Transformations I
- 23.7.1. Move - Rotate – Scale
- 23.7.2. Join – Prune - Extend
- 23.7.3. Separate - Offset - Formations

23.8. Creating Shapes
- 23.8.1. Deformable Shapes
- 23.8.2. Modeling With Solids
- 23.8.3. Transformation of Solids

23.9. Creating Surfaces
- 23.9.1. Simple Surfaces
- 23.9.2. Extrusion, Lofting and Surface Revolution
- 23.9.3. Surface Sweeping

23.10. Organization
- 23.10.1. Layers
- 23.10.2. Groups
- 23.10.3. Blocks

Module 24. Modeling Techniques and their Application in Rhino

24.1. Techniques
- 24.1.1. Support Intersection
- 24.1.2. Creation of a Space Helmet
- 24.1.3. Pipelines

24.2. Application I
- 24.2.1. Creating a Car Tire
- 24.2.2. Creating a Tire
- 24.2.3. Modeling a Watch

24.3. Basic Techniques II
- 24.3.1. Use of Isocurves and Edges for Modeling
- 24.3.2. Making Apertures in the Geometry
- 24.3.3. Working with Hinges

24.4. Application II
- 24.4.1. Creation of a Turbine
- 24.4.2. Creation of Air Inlets
- 24.4.3. Tips for Imitating Edge Thickness

24.5. Tools
- 24.5.1. Tips for Using Mirror Symmetry
- 24.5.2. Use of Fillets
- 24.5.3. Use of Trims

24.6. Mechanical Applications
- 24.6.1. Gear Creation
- 24.6.2. Pulley Construction
- 24.6.3. Construction of a Shock Absorber

24.7. File Import and Export
- 24.7.1. Send Rhino Files
- 24.7.2. Export Rhino Files
- 24.7.3. Import to Rhino from Illustrator

24.8. Analysis Tools I
- 24.8.1. Graphical Curvature Analysis Tool
- 24.8.2. Curve Continuity Analysis
- 24.8.3. Curve Analysis Problems and Solutions

24.9. Analysis Tools II
- 24.9.1. Surface Directional Analysis Tool
- 24.9.2. Environment Surface Mapping Analysis Tool
- 24.9.3. Edge Display Analysis Tool

24.10. Strategies
- 24.10.1. Construction Strategies
- 24.10.2. Surface per Curve Grid
- 24.10.3. Working with Blueprints

Module 25. Advanced Modeling in Rhino

25.1. Motorcycle Modeling
- 25.1.1. Importing Reference Images
- 25.1.2. Modeling of Rear Tire
- 25.1.3. Modeling of Rear Rim

25.2. Mechanical Components of Rear Axle
- 25.2.1. Creating the Braking System
- 25.2.2. Building the Transmission Chain
- 25.2.3. Modeling the Chain Cover

25.3. Engine Modeling
- 25.3.1. Creation of the Body
- 25.3.2. Adding Mechanical Elements
- 25.3.3. Incorporating Technical Details

25.4. Modeling the Main Deck
- 25.4.1. Modeling Curves and Surfaces
- 25.4.2. Modeling the Deck
- 25.4.3. Cutting the Frame

25.5. Modeling the Upper Area
- 25.5.1. Building the Seat
- 25.5.2. Creating Front End Details
- 25.5.3. Creating Back End Details

25.6. Functional Parts
- 25.6.1. Gasoline Tank
- 25.6.2. Rear Lights
- 25.6.3. Front Lights

25.7. Building the Front Axle I
- 25.7.1. Brake System and Wheel Rim
- 25.7.2. Fork
- 25.7.3. Handlebar

25.8. Building the Front Axle II
- 25.8.1. Grips
- 25.8.2. Brake Cables
- 25.8.3. Instruments

25.9. Adding Details
- 25.9.1. Refining the Main Body
- 25.9.2. Adding the Muffler
- 25.9.3. Adding the Pedals

25.10. Final Components
- 25.10.1. Modeling the Windshield
- 25.10.2. Modeling the Support
- 25.10.3. Final Details

Module 26. Polygonal Modeling in 3D Studio Max

26.1. Reference Modeling
- 26.1.1. Reference Image Creation
- 26.1.2. Hard Surface Smoothing
- 26.1.3. Scene Organization

26.2. High Resolution Meshing
- 26.2.1. Basic Smoothed Modeling and Smoothing Groups
- 26.2.2. Modeling with Extrusions and Bevels
- 26.2.3. Using the Turbosmooth Modifier

26.3. Spline Modeling
- 26.3.1. Modifying Curvatures
- 26.3.2. Configuring Polygon Faces
- 26.3.3. Extruding and Spherizing

26.4. Creating Complex Shapes
- 26.4.1. Setting Up Components and Work Grid
- 26.4.2. Duplicating and Welding Components
- 26.4.3. Cleaning Polygons and Smoothing

26.5. Modeling With Edge Cuts
- 26.5.1. Creating and Positioning the Template
- 26.5.2. Making Cuts and Cleaning Topology
- 26.5.3. Extruding Shapes and Creating Folds

26.6. Modeling from Low Poly Model
- 26.6.1. Starting with the Basic Shape and Adding Chamfers
- 26.6.2. Adding Subdivisions and Generating Edges
- 26.6.3. Cutting, Welding and Detailing

26.7. Edit Poly I Modifier
- 26.7.1. Workflow
- 26.7.2. Interface
- 26.7.3. Sub Objects

26.8. Creating Compounds Objects
- 26.8.1. Morph, Scatter, Conform and Connect Compound Objects
- 26.8.2. BlobMesh, Shape Merge and Boolean Compound Objects
- 26.8.3. Loft, Mesher and Proboolean Compound Objects

26.9. Techniques and Strategies to Create UVs
- 26.9.1. Simple Geometries and Arc-Like Geometries
- 26.9.2. Hard Surfaces
- 26.9.3. Examples and Applications

Module 27. Advanced Polygonal Modeling in 3D Studio MAX

27.1. Sci-FI spacecraft Modeling
- 27.1.1. Creating our Workspace
- 27.1.2. Starting with the Main Body
- 27.1.3. Configuration for the Wings

27.2. The Cabin
- 27.2.1. Development of the Cabin Area
- 27.2.2. Modeling the Control Panel
- 27.2.3. Adding Details

27.3. The Fuselage
- 27.3.1. Defining Components
- 27.3.2. Adjusting Minor Components
- 27.3.3. Developing the Underbody Panel

27.4. The Wings
- 27.4.1. Creation of the Main Wings
- 27.4.2. Incorporation of the Tail
- 27.4.3. Adding Inserts for the Ailerons

27.5. Main Body
- 27.5.1. Separation of Parts into Components
- 27.5.2. Creating Additional Panels
- 27.5.3. Incorporating the Spring Doors

27.6. The Engines
- 27.6.1. Creating the Space for the Engines
- 27.6.2. Building the Turbines
- 27.6.3. Adding the Exhaust

27.7. Adding Details
- 27.7.1. Lateral Components
- 27.7.2. Characteristic Components
- 27.7.3. Refining General Components

27.8. Bonus I - Creation of the Pilot's Helmet
- 27.8.1. Head Block
- 27.8.2. Detail Refinements
- 27.8.3. Helmet Neck Modeling

27.9. Bonus II – Creation of the Pilot's Helmet
- 27.9.1. Helmet Neck Refinements
- 27.9.2. Steps for Final Details
- 27.9.3. Mesh Finishing

27.10. Bonus III – Creation of a Co-Pilot Robot
- 27.10.1. Development of the Shapes
- 27.10.2. Adding Details
- 27.10.3. Supporting Edges for Subdivision

Module 28. Low Poly 3D Studio MAX Modeling

28.1. Heavy Machinery Vehicle Modeling
- 28.1.1. Creation of the Volumetric Model
- 28.1.2. Volumetric Modeling of the Crawler Tracks
- 28.1.3. Volumetric Construction of the Shovel

28.2. Incorporating Different Components
- 28.2.1. Cab Volumetry
- 28.2.2. Volumetry of the Mechanical Arm
- 28.2.3. Volumetry of the Mechanical Shovel Sword

28.3. Adding Subcomponents
- 28.3.1. Creating Shovel Teeth
- 28.3.2. Adding the Hydraulic Piston
- 28.3.3. Connecting Subcomponents

28.4. Incorporating Details to Volumetries I
- 28.4.1. Creating Caterpillars
- 28.4.2. Incorporating Track Bearings
- 28.4.3. Defining the Track Housing

28.5. Incorporating Details to Volumetrics II
- 28.5.1. Chassis Subcomponents
- 28.5.2. Bearing Covers
- 28.5.3. Adding Parts Cuts

28.6. Incorporating Details to Volumetrics III
- 28.6.1. Creating Radiators
- 28.6.2. Adding the Hydraulic Arm Base
- 28.6.3. Creating the Exhaust Pipes

28.7. Incorporating Details to Volumetrics IV
- 28.7.1. Creating the Protective Cabin Grille
- 28.7.2. Adding Piping
- 28.7.3. Adding Nuts, Bolts and Rivets

28.8. Developing the Hydraulic Arm
- 28.8.1. Creating the Supports
- 28.8.2. Retainers, Washers, Screws and Connections
- 28.8.3. Creation of the Head

28.9. Developing the Cabinet
- 28.9.1. Defining the Housing
- 28.9.2. Adding Windshields
- 28.9.3. Door Handle and Headlight Details

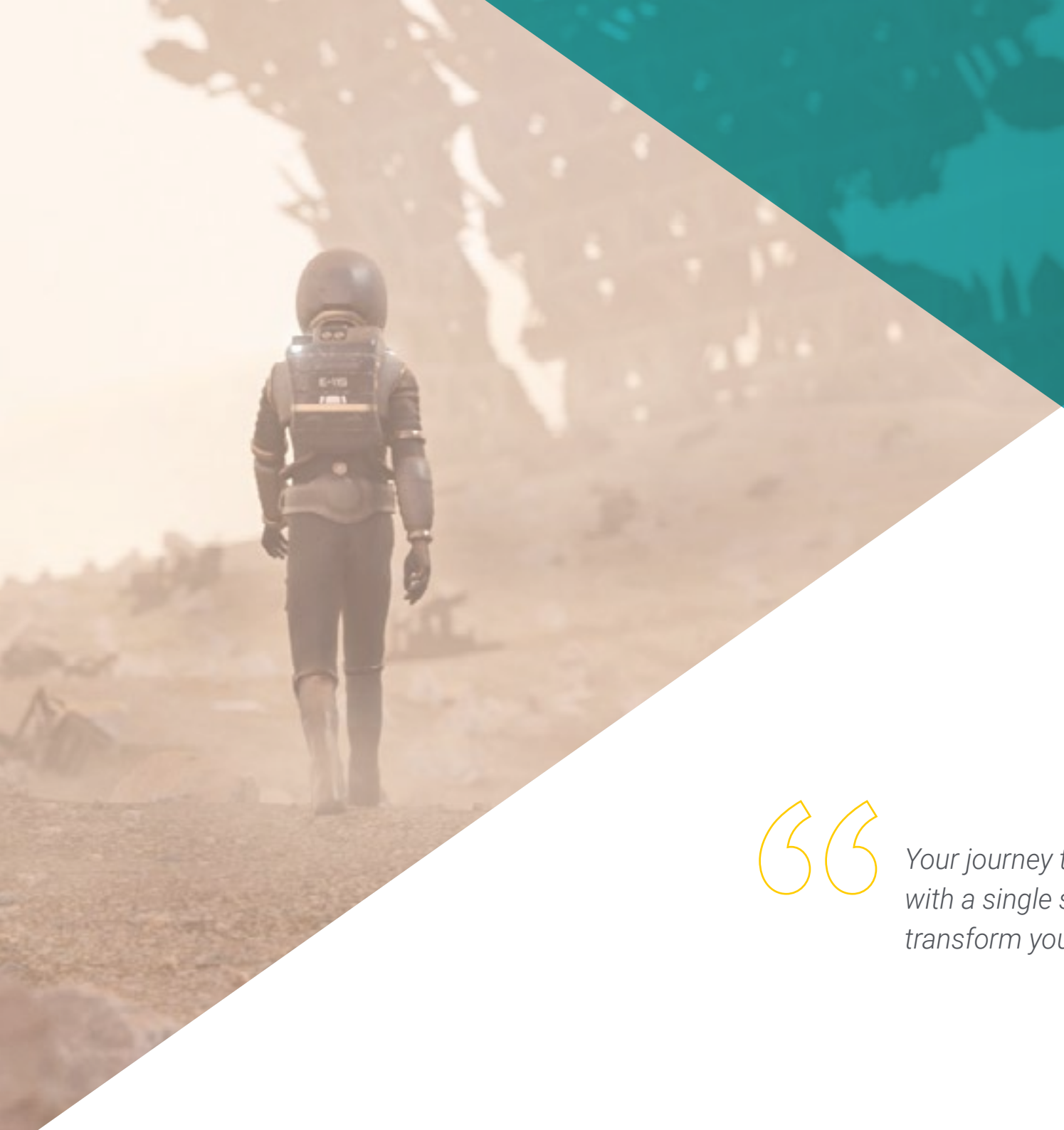
28.10. Mechanical Development of the Excavator
- 28.10.1. Creating the Body and Teeth
- 28.10.2. Creating the Tooth Roller
- 28.10.3. Wiring with Splines, Connectors and Fasteners

This program will enable you to become a professional ready to lead innovative projects in the industry"

04

Teaching Objectives

The teaching objectives of TECH's Comprehensive 3D Modeling program are aimed at specializing students to become highly competent professionals in the design and creation of three-dimensional models. This program seeks to develop advanced technical skills in the use of cutting-edge tools and software. At the same time, it encourages creativity and critical thinking in solving complex challenges. In addition, it focuses on preparing graduates to adapt to the demands of a constantly evolving industry.



Your journey to excellence begins with a single step; enroll at TECH and transform your future"

General Objectives

- Enable students to use advanced software and cutting-edge technologies such as ZBrush, Substance Painter, Blender, 3DS Max and Unreal Engine
- Hone organic modeling, hardsurface and texturing techniques, applying essential concepts for high-quality productions
- Boost students' ability to create original and visually striking projects, adapting to current market trends
- Teach methods and strategies to face technical and artistic challenges in the design and production of 3D models

The only limit is your imagination. Don't hesitate any longer and become the architect of worlds and characters that inspire"

Specific Objectives

Module 1. Anatomy

- Understand the proportions of the human body and how to represent them realistically in 3D models
- Apply anatomical knowledge to improve the accuracy and expressiveness of 3D characters

Module 2. Retopology and Maya Modeling

- Use Maya tools to create high-quality models with a topology suitable for animation and texturing
- Optimize 3D models using retopology techniques to improve performance in video games and movies

Module 3. UVs and Texturing with Allegorithmic Substance Painter and Mari

- Use Allegorithmic Substance Painter and Mari to apply realistic and detailed textures to 3D models
- Develop skills to work with materials, textures and displacement maps to achieve high-quality visual results

Module 4. Rendering, Lighting and Posing of Models

- Understand the principles of 3D lighting and how they affect the appearance of models
- Apply rendering techniques to obtain photorealistic images of 3D models

Module 5. Hair Creation for Video Games and Movies

- Explore techniques for creating digital hair and fur for video game and movie characters
- Apply simulation techniques to control the behavior and appearance of moving hair

Module 6. Clothing Simulation
- Use simulation tools, such as Marvelous Designer and Clo3D, to create realistic digital clothing
- Integrate clothing simulation into video game and movie projects to improve interaction and visual credibility

Module 7. Stylized Characters
- Apply different visual styles and texturizing techniques to create unique and visually appealing characters
- Develop skills to balance simplicity and detail in stylized characters for creative projects

Module 8. Creature Modeling
- Work with complex organic forms, adapting them to the needs of video games or movies
- Apply digital sculpting techniques in ZBrush to create detailed creatures with realistic anatomical features

Module 9. Blender: A New Twist in the Industry
- Explore Blender's capabilities and its evolution for the creation of professional projects in the entertainment industry
- Learn how to use Blender's advanced tools for high-quality 3D modeling and animation projects

Module 10. Organic Environment Creation in Unreal Engine
- Apply modeling and texturing techniques to create landscapes, vegetation and other elements of the natural environment
- Learn how to use Unreal Engine tools for real-time rendering and optimization of organic environments

Module 11. 3D Modeling with 3DS Max
- Develop skills in the creation of precise 3D models for different applications such as video games, animation and architectural visualization
- Learn to use the advanced functionalities of 3DS Max, such as modifiers, meshes and texturing

Module 12. Advanced 3D Modeling with 3DS Max
- Delve into advanced 3D modeling techniques with 3DS Max, including the use of specialized tools and sculpting techniques
- Apply advanced modeling principles to create complex and detailed geometry for high-end projects

Module 13. 3D Modeling with Graphite Tool
- Develop skills to create and edit complex 3D geometry with direct and precise modeling tools
- Apply Graphite Tool techniques to accelerate workflow and improve the quality of 3D models

Module 14. 3D Modeling with ZBrush
- Explore digital sculpting techniques in ZBrush for the creation of detailed and complex 3D models
- Learn how to work with ZBrush tools to create organic and detailed forms for characters, creatures and environments

Module 15. Texturing

- Apply basic and advanced texturing techniques to improve the realism and aesthetics of models
- Develop skills for working with different types of texture maps, such as diffuse, normal and displacement maps

Module 16. Substance Painter Texturing

- Use the 3D painting tools in Substance Painter to apply detailed textures in real time
- Develop skills for the creation of complex and detailed materials, integrating effects such as wear, dirt and aging

Module 17. Rendering

- Study the concepts of lighting, materials and cameras to create high-quality renders
- Apply rendering techniques in programs such as V-Ray, Arnold and other engines to obtain professional visual results

Module 18. Rendering with VRay Engine in 3DS Max

- Delve into the use of the VRay rendering engine in 3DS Max to create high-quality images
- Address advanced lighting, materials and shadow techniques in VRay to obtain realistic results

Module 19. Characters

- Explore the complete 3D character creation process, from design to texturing and rigging
- Apply modeling, sculpting and texturing techniques to create detailed characters ready for animation

Module 20. Exports to Unreal

- Optimize 3D models for Unreal Engine and ensure compatibility with its physics and rendering engine
- Develop skills for the efficient integration of characters, environments and 3D objects in Unreal

Module 21. Study of Figure and Shape

- Understand the principles of the human figure and their application in the 3D modeling of characters and creatures
- Analyze the anatomy and proportions of the human body to improve modeling accuracy

Module 22. Hard Surface Modeling

- Explore hardsurface modeling techniques to create hard objects and surfaces, such as vehicles, machinery and weapons
- Develop skills in the creation of precise and detailed geometry for industrial or science fiction projects

Module 23. Technical Modeling in Rhino

- Gain a deeper understanding of Rhino modeling tools and their application in the creation of models for architecture, industrial design and jewelry
- Develop advanced skills in the use of Rhino to create complex and technically accurate 3D models

Module 24. Modeling Techniques and their Application in Rhino

- Create 3D models using tools such as surfaces, solids and meshes, optimizing the geometry for production
- Develop complex modeling solutions for different industrial and artistic applications

Module 25. Advanced Modeling in Rhino

- Gain an in-depth knowledge of advanced modeling in Rhino, including the creation of complex geometry and the manipulation of advanced surfaces
- Use plugins and additional tools to increase Rhino's capabilities

Module 26. Polygonal Modeling in 3D Studio Max

- Apply polygonal modeling tools to create detailed and efficient geometry in 3D projects
- Develop skills to work with complex objects and optimize models for animation and rendering

Module 27. Advanced Polygonal Modeling in 3D Studio MAX

- Delve into advanced polygonal modeling in 3D Studio Max, exploring complex techniques such as surface subdivision
- Apply advanced modeling and mesh manipulation tools to create high-resolution models

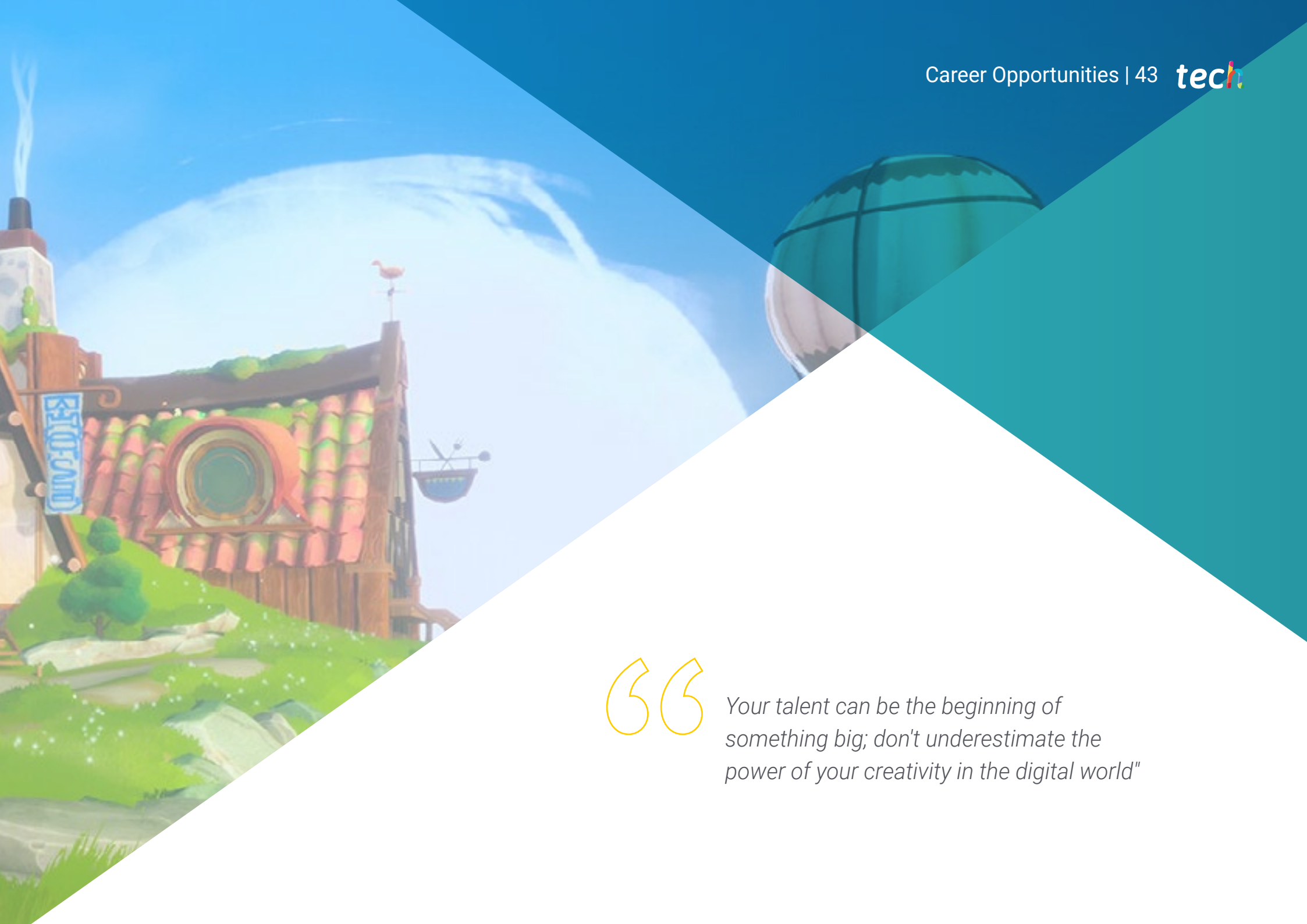
Module 28. Low Poly 3D Studio MAX Modeling

- Explore Low Poly modeling techniques in 3D Studio Max for the creation of light and efficient models
- Develop skills to create low polygon models suitable for games and interactive environments

05

Career Opportunities

After completing this program in Comprehensive 3D Modeling, professionals will be equipped with a set of technical and creative skills that will open up a range of career opportunities in the design and animation industry. Graduates will be able to work as 3D modelers in video game, film and advertising studios, where they will be able to create highly detailed and realistic characters, environments and objects. They will also have the ability to work as texturing and rendering artists, applying their knowledge of advanced tools to optimize the visual quality of their projects. With a solid specialization in modeling techniques and a focus on innovation, these professionals will be prepared to face the challenges of the labor market and excel in a constantly evolving field.



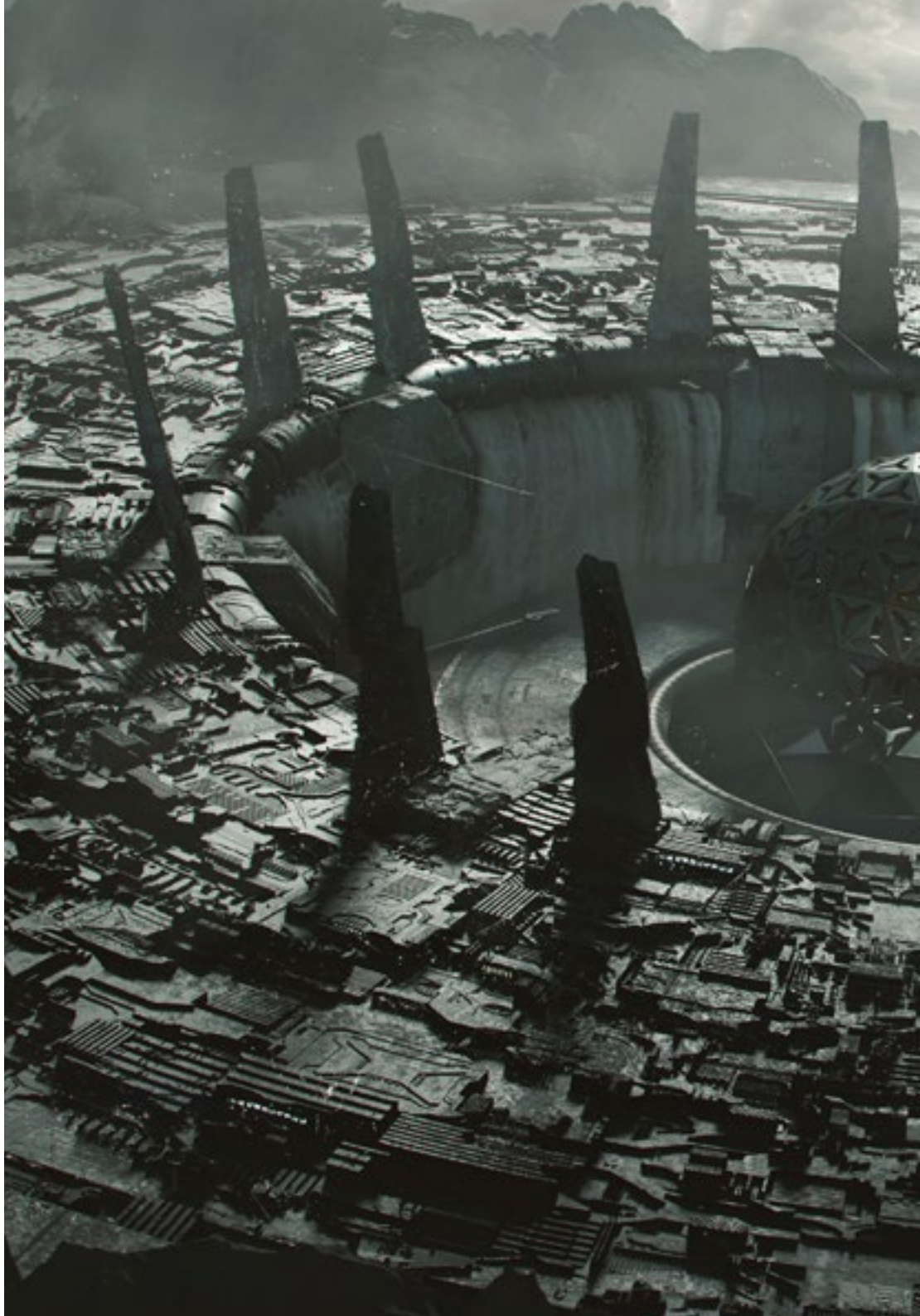
Your talent can be the beginning of something big; don't underestimate the power of your creativity in the digital world"

Graduate Profile

The profile of the graduate of the Comprehensive 3D Modeling program is characterized by a solid technical and creative specialization in the field of 3D modeling, which allows them to perform successfully in various industries. Students will have a deep knowledge of human and animal anatomy, which will allow them to develop hyperrealistic creatures and characters. They will also be trained to apply texturization and rendering techniques, guaranteeing the visual quality of their projects. With an innovative mindset and creative problem-solving skills, these professionals will be ready to face the challenges of the job market and contribute to the development of high-quality multimedia productions.

Through a 100% online method, you will become the professional who transforms your ideas into something completely tangible.

- **Attention to Detail and Texturing:** Meticulous focus on creating realistic textures using tools such as Substance Painter, ensuring a high level of visual quality
- **Critical Thinking and Environment Design:** Ability to analyze complex problems in the creation of organic and immersive environments on platforms such as Unreal Engine
- **Adaptability and Hard Surface Techniques:** Flexibility to learn new tools and techniques, applying them to the modeling of hard and mechanical objects
- **Time Management and Rendering:** Ability to manage multiple projects and meet tight deadlines, guaranteeing high-quality images using rendering engines such as VRay



After completing the Advanced Master's Degree, you will be able to apply your knowledge and skills in the following roles:

1. **3D Modeler:** Creation of three-dimensional models for videogames, cinema and advertising, using specialized software.
2. **Texturing Artist:** Development and application of realistic textures to 3D models, ensuring a high level of visual detail.
3. **Visual Effects Artist (VFX):** Creation of complex visual effects and animations that complement film productions and video games.
4. **3D Environment Developer:** Design and modeling of immersive and organic environments for video games and simulations.
5. **3D Modeling Consultant:** Advice to companies on the best practices and techniques in 3D modeling to improve their projects.

Combine the most up-to-date tools with your passion and imagination and achieve unlimited professional success"

06

Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.

TECH will prepare you to face new challenges in uncertain environments and achieve success in your career"

The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.
The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

"At TECH you will NOT have live classes (which you might not be able to attend)"

The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want"

Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.

Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.

The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule"

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that assess real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.

The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.

You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.

As such, the best educational materials, thoroughly prepared, will be available in this program:

Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.

Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.

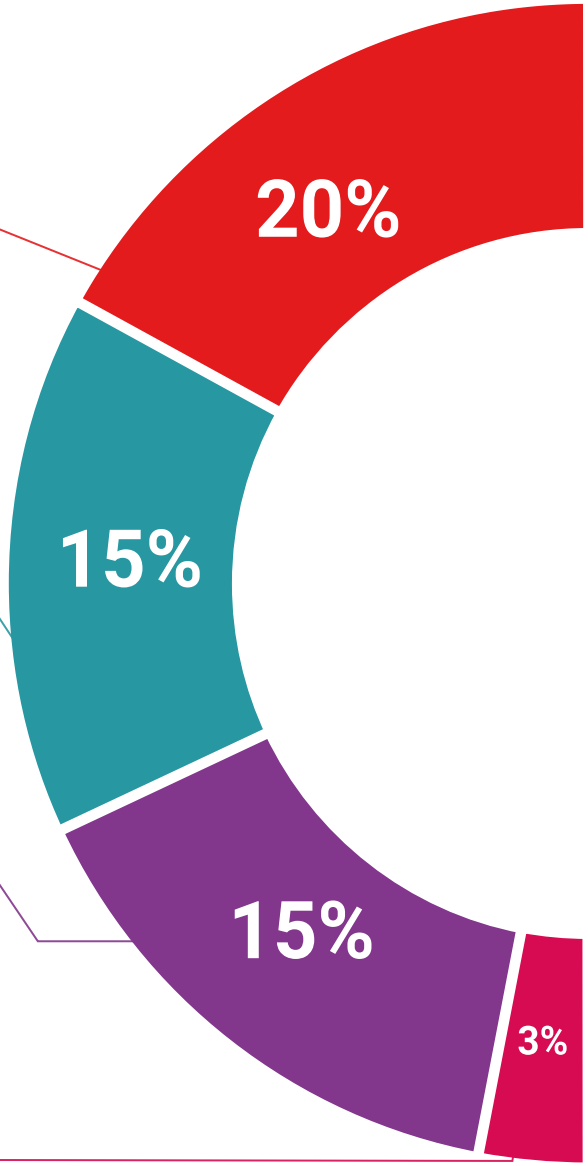
Interactive Summaries

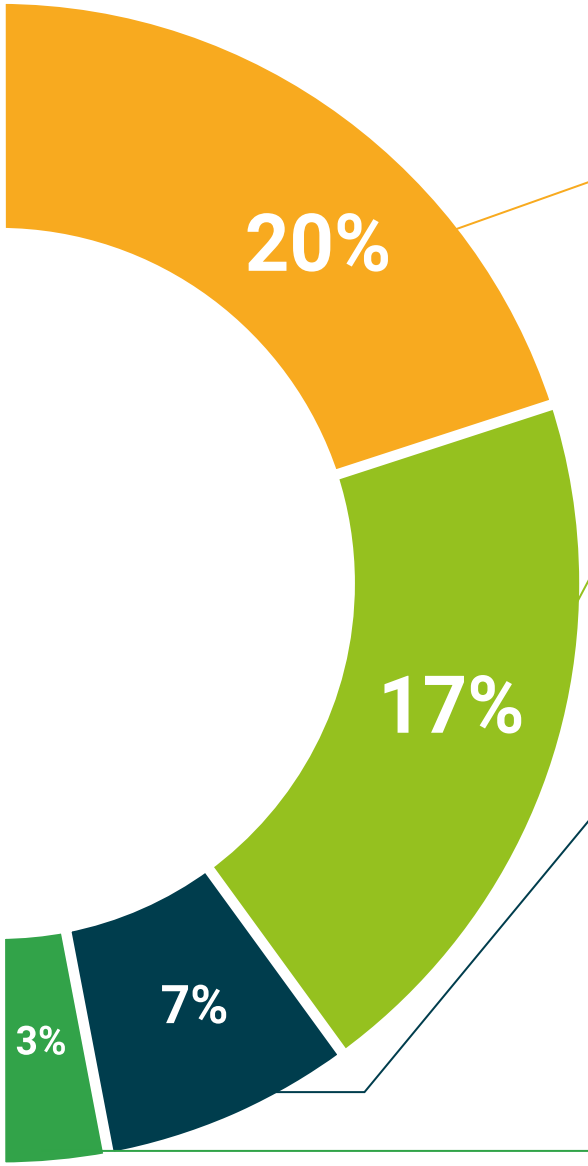
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".

Additional Reading

Recent articles, consensus documents, international guides... In our virtual library you will have access to everything you need to complete your education.





Case Studies

Students will complete a selection of the best case studies in the field. Cases that are presented, analyzed, and supervised by the best specialists in the world.

Testing & Retesting

We periodically assess and re-assess your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.

Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an expert strengthens knowledge and memory, and generates confidence for future difficult decisions.

Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical and effective way to help students progress in their learning.

07

Teaching Staff

TECH has selected a teaching team of active professionals who are up to date with the latest innovations in 3D Modeling to guide students throughout the learning process. These specialized lecturers will transmit to the students all the necessary knowledge to progress in this area of design, so that they will be able to apply everything they have learned directly in their work. For this reason, the program is the best option for specializing in 3D Modeling, as it specifically prepares students to access the best professional opportunities with a highly qualified faculty.

The best guidance and most up-to-date teaching content so that you learn from the best, only at TECH"

Management

Ms. Gómez Sanz, Carla

- 3D Animation Specialist
- Concept Artist, 3D Modeler and Shading at Timeless Games Inc.
- Vignettes and Animations Design Consultant for commercial proposals in Spanish multinationals
- 3D Specialist at Blue Pixel 3D
- Higher Technician in 3D Animation, Video Games and Interactive Environments at CEV, School of Communication, Image and Sound
- Master's Degree and Bachelor's Degree in 3D Art, Animation and Visual Effects for Video Games and Cinema at CEV, Higher School of Communication, Image and Sound

Ms. Sanches Lalaguna, Ana

- 3D Artist for videogames
- 3D Generalist at NeuroDigital Technologies
- 3D Designer at Lalaguna Studio
- Freelance Video Game Figure Modeler
- Junior Videogame Artist at InBreak Studios
- Master's Degree in Video Game Art and Design at U-tad
- Diploma in 2D and 3D Animation Filmmaking at the School of Art ESDIP

Mr. Salvo Bustos, Gabriel Agustín

- Industrial Designer Expert in Three-Dimensional Design and Modeling
- CEO at D-Save 3D Services
- 3D Artist at 3D Visualization Service Inc.
- Product Designer at Essence of Artisans
- Film and Video Editor at Digital Film
- Industrial Designer specialized in Products at the National University of Cuyo
- Digital Composition Seminar at the National University of Cuyo

08

Certificate

The Advanced Master's Degree in Comprehensive 3D Modeling guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.

Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"

This private qualification will allow you to obtain a **Advanced Master's Degree in Comprehensive 3D Modeling** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra (***official bulletin***). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** private qualification is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Advanced Master's Degree in Comprehensive 3D Modeling**

Modality: **online**

Duration: **2 years**

Accreditation: **120 ECTS**


tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Advanced Master's Degree in Comprehensive 3D Modeling

This is a private qualification of 3,600hours of duration equivalent to 120 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Dean

Unique TECH Code: AFWORD23S techtitute.com/certificates


Advanced Master's Degree in Comprehensive 3D Modeling

General Structure of the Syllabus

Year	Subject	ECTS	Type
1º	Anatomy	4	CO
1º	Retopology and Maya Modeling	4	CO
1º	UVs and Texturing with Allegorithmic Substance Painter and Mari	4	CO
1º	Rendering, Lighting and Posing of Models	4	CO
1º	Hair Creation for Video Games and Movies	4	CO
1º	Clothing Simulation	4	CO
1º	Stylized Characters	4	CO
1º	Creature Modeling	4	CO
1º	Blender: A New Twist in the Industry	4	CO
1º	Organic Environment Creation in Unreal Engine	4	CO
1º	3D Modeling with 3DS Max	4	CO
1º	Advanced 3D Modeling with 3DS Max	4	CO
1º	3D Modeling with Graphite Tool	4	CO
1º	3D Modeling with ZBrush	4	CO

Year	Subject	ECTS	Type
2º	Texturing	4	CO
2º	Substance Painter Texturing	4	CO
2º	Rendering	4	CO
2º	Rendering with VRay Engine in 3DS Max	4	CO
2º	Characters	4	CO
2º	Exports to Unreal	4	CO
2º	Study of Figure and Shape	4	CO
2º	Hard Surface Modeling	4	CO
2º	Technical Modeling in Rhino	4	CO
2º	Modeling Techniques and their Application in Rhino	4	CO
2º	Advanced Modeling in Rhino	4	CO
2º	Polygonal Modeling in 3D Studio Max	4	CO
2º	Advanced Polygonal Modeling in 3D Studio MAX	4	CO
2º	Low Poly 3D Studio MAX Modeling	12	CO

Dr. Pedro Navarro Illana
Dean

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*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

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Advanced Master's Degree
Comprehensive 3D Modeling

- Modality: **online**
- Duration: **2 years**
- Certificate: **TECH Global University**
- Accreditation: **120 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Advanced Master's Degree
Comprehensive 3D Modeling

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