



ISSUED by University of Basilicata
SINCE

TAGS: Blender (software) , 3D modeling , Light painting , Texture mapping , Rendering , Computer animation , Computer graphics , Mesh generation , Archviz , Adobe Photoshop

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Advanced ArchViz in BLENDER

The holder of this badge has attended the course "Advanced ArchViz in BLENDER" organized by the University Basilicata as part of the "Competenze trasversali in Unibas" Project.

The course provides advanced skills to create professional renders with a very high visual-narrative impact through storytelling and the development of professional 3D scenes, realistic materials, light study and rendering/post-production techniques.

The classes, which are predominantly practical, are based on the use of the BLENDER software, an all-in-one tool equipped with all the necessary features to meet the needs of 3D Computer Graphics:

- Layout: Complete scene management.
- Grease Pencil: Notes, design, and editing in 3D space.
- Modeling: Detailed creation of geometries.
- Sculpting: Advanced sculptural modeling.
- UV Editing: Managing UV maps for textures.
- Texture Paint: Painting on 3D models and textures.
- Shading: Advanced material management, including reflection, refraction, and Fresnel.
- Animation: Object animations and relationships.
- Rendering: Generating raw images.
- Compositing: Post-production through nodes.
- Video Editing: Editing video sequences.

The course lasts 90 hours and is structured in 6 phases:

1. 3D Modeling: primitives, booleans, advanced commands, modifiers (cloth, subdivision surface), architectural modeling, and complex objects.
2. Lighting and Still-Life: Natural light, shadows, HDRI, artificial lights, realistic atmospheres (fog, depth of field), and simulation of virtual photographic sets.
3. Basic and Advanced Materials: principled BSDF, textures, masks, reflections, bump, displacement, hair, unwrap, texture painting, and baking.
4. Animation, Cameras, and Rendering: managing FPS, timeline, animation presets, cameras, DOF, and rendering with EEVEE and Cycles.
5. Storytelling and Post-Production: color theory, compositing nodes, atmospheric effects (mist, light passes), and photo-insertion.
6. Final Workshop: practical realization, under the teacher's guidance, of a complete project.

By the end of the course, participants will have acquired advanced skills in 3D modeling, lighting management, and the creation of realistic materials using Blender. They will be able to animate objects and cameras, manage complex scenes, and apply depth-of-field effects. They will also master compositing and post-production techniques to enhance renders, using nodes, masks, and advanced effects. They will develop expertise in rendering with EEVEE and Cycles and in video editing for creating professional visual presentations. Furthermore, through the final workshop, they will be able to apply the learned techniques to create a complete architectural visualization project.



Skills

The owner of this badge proved to possess the following competencies:

- Creation and management of complex geometries, use of primitives, booleans, modifiers (cloth, subdivision surface), and architectural modeling techniques.
- Expertise in natural and artificial lighting, HDRI, lights and shadows, creation of realistic atmospheres, and advanced use of EEVEE and Cycles for real-time rendering.
- Use of the principled BSDF, creation of advanced textures, application of masks, bump, displacement, hair, and texture painting and baking techniques.
- Creation of animations for objects and cameras, management of the timeline, application of depth of field effects, and material animations.
- Working with nodes, advanced masking techniques, color correction, photo-insertion, and atmospheric effects like mist and light passes.
- Video sequence editing for creating professional visual presentations.
- Advanced sculpting and UV map management for textures.

Il proprietario di questo badge ha dimostrato di aver maturato le seguenti soft skills:

- Capacità di risolvere problemi complessi nella creazione di modelli 3D e nella gestione delle scene.
- Sviluppo della capacità di esprimere soluzioni creative per la visualizzazione architettonica.
- Capacità di organizzare il lavoro in base alle scadenze e di rispettare il flusso di produzione.
- Abilità a lavorare in team, in particolare durante il workshop finale.
- Precisione nella creazione di modelli, nella gestione delle luci e dei materiali per ottenere un realismo visivo elevato.

The owner of this badge proved to have gained the following knowledge:

- In-depth knowledge of Blender's features and tools, including layout, modeling, animation, and rendering.
- Proficiency in Photoshop tools useful for post-production.
- Knowledge of techniques for creating realistic lighting and materials in a 3D environment.
- Skills in creating complex 3D architectural projects, including storytelling techniques and visual composition.

Criteria

The Badge is awarded upon completion of the course "Advanced ArchViz in BLENDER".

At the end of the course, participants must create a project from scratch, demonstrating that they have acquired the skills related to using all the features of the BLENDER software.

The completion of the final project and its presentation, along with the attendance percentage (which cannot be less than 70% of the total course duration), are the elements upon which the learning assessment for earning the badge is based.

The total duration of the course is 90 hours.



Issued by University of Basilicata

The University of Basilicata is the leading University of the Basilicata region, in the Southern part of Italy. Since 2012, according to the new University statute and rules of procedure, ex D.R. n. 88/2012, the University of Basilicata is organized through six primary structures (precisely four departments and two schools) in which the functions and the personnel of the pre-existing twelve departments and eight faculties have been re-addressed. Degree programs range from the Humanities, to architecture, archeology, education, economics and management, as well as to the STEM disciplines (hard sciences, agriculture, engineering, computer sciences). Such degree programs are effectively connected to the research, training and third mission activities developed by the primary structures. University of Basilicata counts about 7000 students, and is based in the cities of Potenza and Matera.



Badge Numbers



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