

# Autodesk Maya course

## Part 1: Theory

- First steps: workspace layout, settings, project folder
- Interface: navigation, camera, display options, hotkeys
- Maya basic tabs: Outliner, Attribute editor, Channel box
- Polygonal geometry: mesh parts, polycount principles, manipulations
- General topology and common mistakes
- Mesh display: Face, Normals, Edges
- Shelf tab: our commands set for modeling
- Groups, History and transformations – CP, FT, Selection options, Instances
- Booleans and polygonal mesh frequent issues
- Deformers – Nonlinear, Lattice, ShrinkWrap
- General materials and colors – Hypershade
- Use and know NURBS curves and surfaces for specific modeling cases
- NURBS curves - loft, revolve, extrude
- NURBS surfaces components and use
- Mesh duplicate methods – Special vs Animation path (Animation snapshot)
- Convert geometry, combine and separate meshes

## Part 2: Practice – our first models (Trash can/Bench/Police booth)

- Loading pictures references, understanding scene scale settings
- Measure tools and Locators
- Reference editor
- Understanding transparency
- UV Editor, non-overlapping professional layout for errors free texturing
- Texturing: Photoshop vs Substance Painter
- Substance Painter in two hours!
- Ambient Occlusion and Normal maps
- Primitive LODs system

## Part 3: Practice – more complicated models (full vehicle model with interior)

- Mirroring and Symmetry
- Hard surfaces topology with detached parts
- Proper hierarchy and elements preparation for Game Engines
- LODs – manual vs automatic

Optional Practice – find something and let's make it game-ready together. Previous knowledge should be enough.

## Part 4: Advanced Practice – organic models and animation (characters)

- Organic topology, T-pose and zonal polycount
- Basic sculpting
- Know your goals and requirements – purpose of a model (third-person, characters for strategy games etc.)
- Using ready assets to save time (yes, it is not a shame!)
- Clothing character with nCloth (optional for Maya Pro)
- UV mapping for characters
- Proper mesh parts organization and cleanup before rigging
- Done with model? Import assets into automatic Mixamo rig!
- Basics of Mixamo: set up your character and export fbx
- Explore existing Skeleton hierarchy after importing
- Paint and fix skin weights before you animate
- Adding solid objects to character hands or body
- Basics of animation: Keyframes, Timeline and Graph Editor
- Character LODs – keep your rig secured
- Good to know: Blend shapes and Facial animation principles

## Part 5: Conclusion

Know your capabilities and improvement ways for the future.

After the course you will understand, what exactly you should know better or search in Maya/ Web to success with more complicated tasks. Remember common issues and their solving: double UV sets, Non-manifold geometry, dark and blinking zones, obj/fbx import and display, Triangulation/Quadrangulation process, extra vertex, N-gons.  
Course exam.