<Student Name> <Student ID>

Date

# Modelling

Polygonal Modelling

Used where: For the main 3D objects in the scene, such as environment structures, props, and character bodies.

Purpose: To create detailed, realistic shapes with control over geometry.

Part of labs?: Yes.

Related module content: 3D asset creation, topology management, UV unwrapping.

Advantages: High control over shapes, easy to edit, widely supported in all 3D software.

Disadvantages: Can be time-consuming; requires manual optimization for performance.

Alternatives: Sculpting for organic forms, procedural generation for repetitive objects.

Procedural Modelling

Used where: For repeating elements such as terrain, foliage placement, or patterned objects.

Purpose: To generate complex assets automatically using modifiers or procedural tools.

Part of labs?: Yes.

Related module content: Geometry nodes (Blender) or procedural generators (Houdini).

Advantages: Saves time, flexible adjustments, non-destructive workflow.

Disadvantages: Less direct control over exact shape details.

Alternatives: Manual modelling, kitbashing.

Sculpting

Used where: For organic forms like rocks, natural shapes, or creature detailing.

Purpose: To achieve realistic organic shapes with fine surface detail.

Part of labs?: Yes.

Related module content: Digital sculpting techniques, multiresolution workflows.

Advantages: Great for realism, artistic freedom.

Disadvantages: High-poly output, needs retopology for animation.

Alternatives: Displacement maps, texture-based normal details.

# Animation

Keyframe Animation

Used where: For character movements, object transforms, and scene actions.

Purpose: To control motion manually for precise timing.

Part of labs?: Yes.

Related module content: Animation curves, interpolation, motion planning.

Advantages: Full control over motion, works well for stylized or planned actions.

Disadvantages: Time-consuming, less natural if not done carefully.

Alternatives: Motion capture for realistic movement.

Physics Simulation

Used where: For natural effects like falling debris, collision-based motion.

Purpose: To simulate realistic physical behavior automatically.

Part of labs?: Yes

Related module content: Rigid body dynamics, cloth simulation, particle simulation.

Advantages: Realistic results with less manual animation.

Disadvantages: Can be computationally heavy, less artistic control.

Alternatives: Manual animation for stylized control.

Particle Systems

Used where: For effects such as sparks, magical energy flows.

Purpose: To create dynamic visual effects.

Part of labs?: Yes.

Related module content: Emitter particles, volumetric rendering.

Advantages: Creates complex effects quickly, can simulate natural randomness.

Disadvantages: High render times, complex to optimize.

Alternatives: Sprite-based effects, baked simulations.

# 3rd party Assets used in the coursework

Note: You are not allowed to import any animation, models, or model parts from external sources.

3rd party resources that explicitly permitted are:

Music and sound effects

Textures

Reference images

Textures: Possibly from free libraries such as CC0 Textures, Texture Haven, or Quixel (permitted).

Music and Sound Effects: Background soundtrack and ambient sound from royalty-free sources.

Reference Images: Used for modelling accuracy.

Note: No imported models or animation clips.