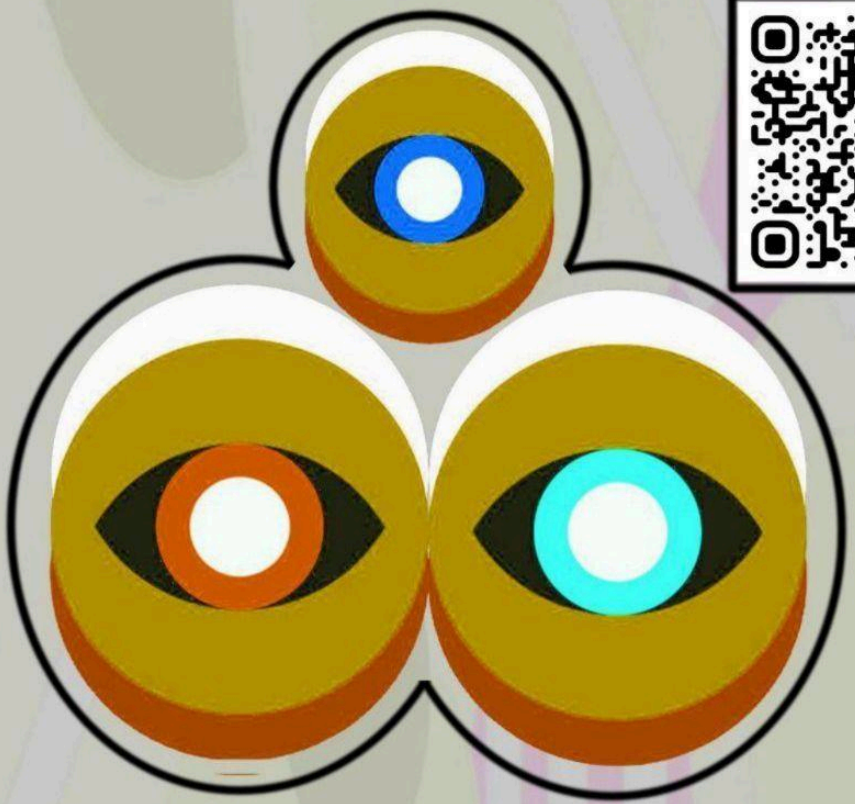
From: Institute Of Digital Arts Jamaica

# IMMERSIVE DIGITAL MEDIA PRODUCTION

**(Non-Photorealistic Rendering [NPR])**
**(Physically Based Rendering [PBR])**
**(Utopia-Edition)**



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**(PRD00) Production - "Immersive-Digital-Media-Production"**

| | |
|---|---|
| Programme | : Media Production |
| Department | : Media |
| Prerequisites | : CSEC® (Literature, Technical Drawing, VisualArts, TheatreArts, or Music) (CAPE® Performing Arts U1 and/or U2) or (satisfactory demo-reel/interview) |
| Type Of Course | : Production |
| Course Title | : "Immersive-Digital-Media-Production" |
| Course Code | : PRD00 |
| Credits | : 3 |
| Year | : Year-One (2026) |
| Semester | : s1-spring, s2-summer, s3-fall |
| Duration | : 1 Semester, 15 weeks, 60 hours (4 hours per week),(Every Wednesday@12:00am) (Term: January-01_May-01)(Term: June-01_August-31)(Term: September-01_Demember-01) |
| Lecturer / Tutor | : Israel Andrew Brown |
| Email | : israelandrewbrown@proton.me |
| Email (Organization) | : iodaj@proton.me |
| Website | : https://github.com/israelandrewbrown/Immersive-Digital-Media-Production |
| Discord | : https://discord.gg/TsZG7jTQDA |
| Jitsi (Online-Meet) | : https://meet.jit.si/moderated/d47831b6b5f4811d5a5f0c924ed16a82e98b84695720519de62319a4c6372dde |
| e-Resources | : eighty-embedded-video-links-twenty-hours-cited-throughout-the-document |
| Rationale . . . | :This course addresses the growing need for digital-citizens who can integrate A.I. tools into traditional media creation workflows, to prepare them for an industry/society increasingly reliant on AI-enhanced production pipelines that maintain core storytelling and technical media production skills. |
| Description | : This course leverages State of The Art (SoTA) free and open-source artificial intelligence models and software to produce media (text, imagery, audio, 3d-printable-mesh). Building on foundational media composition skills (storytelling, storyboarding, animatic-creation, and video-editing), students will learn methods in artificial digital asset generation. Understand and utilize digital media production techniques to effectively; create, modify & compose artificially-generated digital assets into 2d/3d-printable-media. Troubleshoot common AI-related issues in media production. |
| Equipment (Required) | : camera, Laptop (≤16gb ram) (≤256gb ssd), e-Mouse, Microphone, ≤50mbps internet, room |
| Equipment (Edge-A.I) | : (NVIDIA-GB10-Grace-Blackwell-Superchip) or (Apple-Silicon M-Series Chips) |
| Equipment (Optional) | :2xWebCam, 2xUSBC-to-C Cable, 2xTripods, 1xChArUco-Board, 1xHeadgear, Green-Screen |

Goals :

1. Understand and utilize media production techniques to effectively generate, modify,& compose artificially generated digital assets into media.
2. Appreciate how artificial intelligence models can address and resolve inefficiencies in digital media pipelines, improving overall productivity.
3. Identify, analyze, and resolve common issues arising from the use of artificial intelligence in digital media production.
4. Recognize the limitations of automation in digital media production, recognizing which roles are more challenging to automate and why.

| | |
|---|---|
| Course Assessment . | : Please note, knowledge gained from this course will be assessed in the "(PRJ00) Project – Individual Project" by its respective examiner. |
| cost-of-course/exam | : $375.00 USD ($1.00usd to 160jmd)(fee-subject-to-change)(payable-via-bitcoin) |
| Donate Bitcoin | : bc1qdjsljjzj4x83v28ks0l3cvwdkqvhyfggzc2w8v (request-btc-address-for-tuition) |

This course material is intended for educational use and is based on the author's current understanding of the subject matter. While the author has taken reasonable steps to ensure the accuracy of the information presented, the rapidly evolving nature of artificial intelligence and media production means that some details may become outdated. The information in this book is distributed on an "As Is" basis without warranty. While every precaution has been taken in the preparation of the book, the author shall not have any liability to any person or entity with respect to any loss or damage caused or alleged to be caused directly or indirectly by the instructions contained in this book or by the operating systems, large language models, image diffusion models, computer vision models, computer software and hardware products described in it.

**Week One**
(Lecture) Introduction to “Immersive-Digital-Media-Production”
What is media? What is a film? What is a “cultural-relevance” "characterization" “perspective” “pacing” ?
What is a computer? What is an operating system? What is hardware and software?
What is an algorithm? What is “Artificial Intelligence"? What is “software user documentation”?
What is a Large Language Model (LLM)? What is stable diffusion? What is cv / pose detection?
What is the “Chain-of-Thought” and “Zero-shot”? What is a ControlNet? What is a.i. Hallucination?
What is the “e-pipeline” and its roles”? What is scarcity and abundance? What is a.i-slop vs i.c.l.?
6-Cs of a.i.-asset-mining; “conscience”, “character”, “control”, “consistency”, "continuity" “confirmation” ?
What is an influence?What is “Glaze”software?What is“digital-watermarking”?What is“a.i.-asset-mining”?
What is “free-and-open source”? What are free-and-open-source software licenses?
(.txt)(.fountain)(.jpeg)(.ply)(.stl)(.usd)(.ogg)(.FLAC)(.srt)(.otio)(.glb)(.csv)(.exr)(.mkv)(.cbz)
What is “production-meeting”? What is creative “control” and “freedom”? What is “critique/approval” ?
How to inference relevant “free-and-open-source” a.i.-models? eg.“pinokio.co”“fal.ai”“replicate.com”
Assignment: Create and deploy a Studio Website or Youtube® channel.

input-to-output, i2o (definitions) (webUI[Gradio])(nodeUI[ComfyUI])(CLI)

**Week Two**
(Lecture) Story Development (logline, synopsis, 5-Ws, 3-Act-Structure, protonganist/antagonist)
(Lecture) Screenplay (scene, action, character, dialogue, parentheses)
(Tutorial) browser-use, text-to-text ([deepseek-R1] ollama)

**Week Three**
(Lecture) Visual Development (Silhouette-Shape-Language/Line-Art/Coloured-Render)
(Tutorial) [t2i, i2i] <Characters/Props/World>([sd-v1.5] Krita-AI-Diffusion )

**Week Four-Seven**
(Lecture) Audio Development (Expressive-Voice-Over, Sound-Effects, Music, Subtitles)
(Tutorial) Voice_Design/Clone/Changer/csm (pocket-tts.exe)(qwen3-VD/tts)(chatterbox-VC/tts)(csm)
(Tutorial) text-to-audio, image/video-to-audio (Stable-Audio-Open-1.0) (mmAudio)
(Tutorial) audio-to-MIDI / Split Instrumentals & Vocal (Basic-Pitch) (UVR-v5)
(Tutorial) audio-to-audio (SoulX-Singer) (DiffRhythm[ICL]) (ACE-Step-v1.5[ICL])
(Tutorial) upscale_audio-to-≥48kHz (LavaSR)
(Tutorial) audio-to-text (whisper-v3)

**Week Eight-Nine**
(Seminar) Hybrid-Composition-2d/3d (beats, lighting-diagram, pre/post-boards, pre/post-animatics)
(Critique) Record-Characterization (reference, audition, performance, dramatization, takes, critique)

**Week Ten**
(Lecture) Mesh Development (Retopology/Remesh)
(Tutorial) Image-to-3dMesh/NBR <Characters/Props/World>(Tripo-SR/SG/SF)
(Tutorial) Image-to-3dMesh/PBR <Characters/Props/World>(Trellis-v2) (UltraShape-v1.0)

**Week Eleven**
(Lecture) Look Development (UV/TextureTransfer-via-ReBake) (3-Point-Lighting)
(Tutorial) 3dMesh-to-PBR/NPR <Characters/Props/World>(sd-v1.5)(hunyuan3D-2.1)(StableGen)

**Week Twelve**
(Lecture) Armature Development (pivots, child/parent, controllers, orient, bind, skin, weight, test)
(Lecture) What is a “Non-Deform/Deform-Rig” ?
(Tutorial) Auto-Rig (‘rig-gns’ plugin for Blender-v5.0) ([Rigify-HumanMetaRig]Template)

**Week Thirteen**
(Lecture) Motion Development (detect/calibrate-cameras, record, process-data, view-data)
(Tutorial) “Face” - Motion Capture ([MediaPipe] Deadface-v1.0)
(Tutorial) “Body” - Motion Capture (MediaPipe] FreeMoCap-v1.7/v2.0)
(Tutorial) Retarget Rig_FMC/Rig_Faceit to Rig_Rigify
(Tutorial) layer “face”+“body” motion-capture-performance

**Week Fourteen**
(Lecture) Motion Development (VFX) (FX) ([cuda/ROCm/mlx_required] [cloud])
(Tutorial) Image-composite/edit [t2i, i2i, ii2i] ([Z-Image,Z-Image-Edit] [dyPE])
(Tutorial) Video, Video-Reference [t2v, i2v, i2vWa, a2v, v2v](LTX-2)
(Tutorial) 3D-Camera-Estimation ([Colmap,Golmap] camera-tracker-v4)
(Tutorial) Segmentation ([sam-hq] RotoForge-AI)
(Tutorial) Re-Light (map[*albedo,normal,depth,metallic,roughness*]) ([MVInverse][DepthAnything-v2])(ctdr)
(Tutorial) text/inPainting/outPainting-to-paramaraic-i, 360HDR(sd-v1.5) (DiT360)
(Tutorial) upscale_image/video-to-≥4k (real-ESRGAN)

**Week Fifteen :**
(Critique) review, view or showcase of completed projects.

**Course Review** : https://github.com/israelandrewbrown
**Donate Bitcoin** : bc1qdjsljjzj4x83v28ks0l3cvwdkqvhyfggzc2w8v

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Title-Of-Lesson-02 : **Story Development**

Aim : To introduce the fundamental principles and structural elements required for developing a coherent and engaging story.

Objectives :

1. Define and write a compelling one-sentence logline.
2. Summarize a story idea into a concise synopsis.
3. Apply the 5-Ws (Who, What, Where, When, Why) to build a story's foundation.
4. Explain and outline a narrative using the 3-Act-Structure.
5. Create and describe the core traits of a protagonist and antagonist.
6. Understand the basic formatting of a screenplay: scenes, action, and dialogue.

Required Material : computer, internet access, access to ollama (`deepseek-R1`), Trelby.

Lecture :

1. Story Development: Key concepts including logline, synopsis, the 5-Ws, the 3-Act-Structure, protagonist, and antagonist.
2. Screenplay: An introduction to screenplay formatting, covering scene, action, character, dialogue, and parentheses.

Tutorial :Browser-use and text-to-text generation: Using Ollama (with the `deepseek-R1` model) to assist in the creative writing process.

Assignment : Develop an original story concept and present its core components. Your submission must include:

1. A one-sentence logline.
2. A one-paragraph synopsis (approx. 150-250 words).
3. A short description of your protagonist and antagonist.
4. A brief outline based on the 3-Act-Structure.
5. A 3-page screenplay based on treatment.

Due Date : Week 3

References:

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Title-Of-Lesson-03 : **Visual Development**

Aim : To introduce the visual design pipeline, from initial abstract shapes to a fully rendered concept, using both traditional techniques and AI-powered tools.

Objectives :

1. Understand/apply Silhouette design to create strong, recognizable identities.
2. Utilize Shape Language (e.g., circles, squares, triangles) to communicate personality and function of a character, prop, or environment.
3. Refine a chosen silhouette into detailed Line-Art.
4. Produce a Coloured Render to communicate final materials, lighting, mood.
5. Use text-to-image (t2i) and image-to-image (i2i) tools to generate and iterate on visual concepts.

Required Materials: computer, software:Krita, access to Stable-Diffusion (`sd-v1.5`)

Lecture :

1. Silhouette: Starting with basic shapes to test for recognizability/visual interest.
2. Shape Language: Using fundamental shapes to build and define the design.
3. Line Art: Using line art to refine and clarify the design.

Tutorial : Visual Concept [t2i, i2i]: A session using the Stable-Diffusion (`sd-v1.5`).

1. Students will practice using text-to-image (t2i) to generate initial ideas for Characters, Props, or Worlds.
2. Students will explore image-to-image (i2i) to refine their own rough sketches or previously generated images.

Assignment : Students will derive sheets: bios, turnarounds, action-poses, face-expressions, from their finished characters, world and props, title card design using the above mentioned techniques.

Due Date : Week 4

Reference:

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Title-Of-Lesson-04-07 : **Audio Development**
(Week_04-07)

Aim : To develop a comprehensive understanding of the audio post-production pipeline and gain practical skills in generating, manipulating, and integrating all elements of a soundscape using a suite of modern AI-powered tools

Objectives :

1. Articulate the narrative function of voice-overs, sound effects, music, subtitles.
2. Generate high-quality, expressive dialogue using text-to-speech (TTS) and modify vocal performances with voice changers (VC) and explore conversational speech models (csm).
3. Create original SFX from text prompts using text-to-audio models.
4. Analyze existing audio by converting it to MIDI (audio-to-MIDI) for remixing.
5. Deconstruct songs into separate instrumental and vocal stems for audio mixing.
6. Apply audio-to-audio style transfer techniques to alter the rhythm/instrumentation of a track.
7. Automatically/accurately transcribe dialogue to create subtitles (audio-to-text).

Required Materials: Microphone, computer, software: Audacity, Aegisub.

Lecture :

1. Expressive Voice-Over:
   Analyzing tone, pacing, emotion. The difference between narration and character dialogue.

2. Sound Effects:
   Designing a soundscape.

3. Music:
   The psychology of music in the media. Scoring, themes, and mixing music with dialogue.

4. Subtitles:
   Legal requirements and creative best practices for captioning and subtitles.

Tutorial :

1. Expressive Voice-Over
   e-Tools : `qwen3-VD/tts`, `chatterbox-VC/tts`, `LavaSR`
   Activities : Generating character dialogue using text-to-speech. Using voice-changer technology to alter pitch, timbre, and emotion or pre-existing recordings.
   Technique: Altering compression

2. Sound Effects
   e-Tools : `Stable-Audio-Open-1.0`, `mmAudio`
   Activities : Using text-to-audio to generate specific sound effects.
   Technique: Altering reverb.

3. Music
   e-Tools : (`SoulX-Singer`[ICL], `DiffRhythm`[ICL], `ACE-Step-v1.5`[ICL])
   Activities: Experimenting with audio-to-audio models to change the style of a beat or melody.
   Technique:Running a melody through audio-to-MIDI (Basic-Pitch) to extract the musical notes for use in a different instrument. Using UVR-v5 to split a song into its instrumental and vocal tracks.

4. Subtitles & Transcription
   e-Tools : `whisper-v3`
   Activities: Using Whisper-v3 to automatically transcribe all dialogue from a video clip and format it into a subtitle file.
   Technique: Editing a subtitle file.

Assignment : Create the audio-design for the screenplay created from earlier assignment.

Due Date : Week 8

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Title-Of-Lesson-08 : **Hybrid-Composition-2d/3d**

Aim : To master the process of non-destructively-editing and translating a written story into a hybrid dynamic visual sequence, planning camera work, composition, timing using 2d/3d visuals assets.

Objectives :

1. Identify/illustrate key narrative Story Beats and lighting diagrams as colored panels.
2. Create non-destructively, a detailed Shot List that describes the visual plan for a scene.
3. Create non-destructively, a clear Storyboard (.ppt-software), using visual conventions for character blocking, direction of movement, and camera work.
4. Assemble storyboard panels into a timed Animatic with placeholder audio and camera movement (pan, tilt, zoom), cuts (transitions) to guide the viewer's eye.
5. Use 2d/3d assets/space to create non-destructively, a hybrid-animatic.

Required Materials: computer, e-tablet, e-pencil, stereo-set, e-mouse, e-tool: Krita, Storyboarder, Blender-v5.0.0.

Lecture :

1. Lighting-Diagram/Beats: Identifying the most critical emotional moments or plot points and visualizing them as Story-Beats (key images).
2. Pre-Boards vs. Post-Boards: Moving from rough thumbnail sketches (pre-boards) to cleaner, more detailed panels from animatics (post-boards). Understanding shot types (e.g., Wide, Medium, Close-up) and framing rules to create visually appealing and clear images.
3. Pre-Animatics vs. Post-Animatics: Moving from motion -panels to hybrid-2d-3d-animatics.
4. Camera Movement: Planning 2D and 3D camera moves (pan, tilt, zoom, dolly, truck) to add dynamism and perspective in 3d space.
5. Cuts & Transitions: Understanding the pacing and emotional impact of different edits (e.g., hard cut, L-cut, J-cut, cross-dissolve).

Tutorial :

Activity 1: Storyboarding:
Students will draw the Pre-Storyboard panels, paying attention to colour-coding characters and using arrows to indicate direction of movement and camera movement.

Activity 2: Animatic Assembly:
Students will import their panels non-destructively in 3d space. They will time each panel / keyframe, add digital 2d/3d camera movement in 3d/2d space), and sync the visuals with the sound effects and expressive voice-over (from Weeks 4-7) to create a complete animatic.

Activity 3: Shot List:
Students will take their synopsis (from Week 2) and create a detailed Shot List for a short scene, including scene number, shot type, description, and planned camera movement.

Assignment :

1. Lighting-Diagram/Story Beats: 1 colored panel of the most important moments of your scene.
2. Shot List: (Scene No., Shot No., Shot Type, Description, CM, Location).
3. Pre-Storyboard and Post-Animitics: A multi-panel storyboard for the chosen scene.
4. Pre-Animatic and Post-Animatic: A 1-15 minute video file of your panels with audio (VO, SFX, Music).

Due Date : Week 9

StudioBinder. “Ultimate Guide to Camera Shots: Every Shot Size Explained.” *YouTube*, 4 May 2020, www.youtube.com/watch?v=AyML8xuKfoc.

StudioBinder. “Directing Camera Movement Filmmaking Techniques for Directors: .” *YouTube*, 30 July 2018, www.youtube.com/watch?v=GbnYBmqBbKA.

John McCaffrey. “Getting Started with Storyboarder.” *YouTube*, 9 Feb. 2021, www.youtube.com/watch?v=dUVaubWgkD0. Accessed 15 Dec. 2025.

John McCaffrey. “Using Storyboarder to Create Animatics.” *YouTube*, 21 Apr. 2020, www.youtube.com/watch?v=huqDOISsymI. Accessed 15 Dec. 2025.

WerwackFx. “Werwack/Storyliner-Support” *GitHub*, 12 June 2025, www.github.com/werwack/storyliner-support.

Spitfire Storyboards. “STORYLINER - Features Overview of a Truly Phenomenal Addon.” *YouTube*, 31 Dec. 2024, www.youtube.com/watch?v=Q-RI5MaCctQ.

ubisoft. “GitHub - Ubisoft/Shotmanager: Shot Manager.” *GitHub*, 27 Feb. 2023, www.github.com/ubisoft/shotmanager.

Spitfire Storyboards. “‘ubisoft shot manager’ (now ‘storyliner’) (previs, hybrid + storyboard tools).” *YouTube,* 16 Oct. 2022, https://www.youtube.com/watch?v=8yBjm6ojwe8.

  

Title-Of-Lesson-09: **Characterization**

Aim : To explore the principles and techniques for developing and recording a believable and compelling character performance, moving from static concept to dynamic execution.

Objectives :

1. Analyze professional performances using reference material.
2. Understand dramatization as the art of making a character's internal thoughts and conflict externally visible.
3. Explain the iterative production concept of recording multiple takes to achieve the best performance.
4. Learn how to give and receive constructive critique on performance choices.

Required Materials: ≤1 camera, computer

Lecture :

This lecture transitions from character *design* to character *performance*, focusing on the techniques used in acting and motion to bring a character to life.

Audition:
A trial hearing given to a singer, actor, or other performer to test suitability for a project, employment, professional training or competition

Reference:
The "actor's research." How to study real-world people, animals, and existing performances to inform a character's unique movement, tics, and expressions.

Performance:
This is the combination of all choices (voice, body language, timing, expression) that create a believable personality. We will analyze how small choices create a big impact.

Dramatization:
How to visually or audibly express subtext. If a character is lying, how do you *show* it (e.g., avoiding eye contact, fidgeting) instead of just saying it?

Takes:
The professional workflow of iterating on a performance. This applies to voice acting (recording multiple line readings) and animation (creating different versions of a motion).

Critique:
The art of the feedback loop. How to articulate *why* a performance is or isn't working using specific, actionable language rather than vague notes.

Assignment : Create and record a facial and body performance for each character based on your animatics.

Due Date : Week 10

| | |
|---|---|
| 2d_Film | Alexander Behne. “How to Organize Your Video Assets; Folder Structure for Video Editors.” *YouTube*, 16 Apr. 2020, www.youtube.com/watch?v=Dj51kSjMe74. Accessed 20 Feb. 2026. |
| 3d_Game | Pierrick Picaut. “Master Production Workflow in Blender!” *YouTube,* 18 Feb. 2026, www.youtube.com/watch?v=JckDEblB7gc. Accessed 20 Feb. 2026.<br><br>Pierrick Picaut. “Everything about Linking & Overrides in Blender.” *YouTube*, 27 Jan. 2026, www.youtube.com/watch?v=z-KH-zmV79I. Accessed 20 Feb. 2026.<br><br>Pierrick Picaut. “Shot, Scene, Sequence Explained Simply.” *YouTube*, 12 Jan. 2026, www.youtube.com/watch?v=lHqKbB6_Nqc. Accessed 20 Feb. 2026. |

  

Title-Of-Lesson-10: **Mesh Development**

Aim : To introduce the fundamentals concept of 3D-mesh-topology/retopology and explore AI-driven methods for generating 3D models from 2D images.

Objectives :

1. Define retopology/explain its importance for animation and game performance.
2. Differentiate between:
   a high-poly (sculpted/scanned) mesh,
   a low-poly (animation/game-ready) mesh.
3. Use image-to-3DMesh generator to generate models.
4. Create basic 3D assets for Characters, Props, or Worlds based on 2D-art.
5. Analyze the topology of an AI-generated mesh and identify its limitations.
6. 3D-printing applications.
7. Setup 3d-workspace for retopology.

Required Materials: computer, e-mouse, access to 3d-model-generator..
2D concept art (e.g., from Week 3) to be used as input images.
3D model viewing software (e.g., Blender).

Lecture :
Topology, the arrangement of vertices, edges, and faces that form a mesh/structure.
Retopology, the process of recreating a "clean," efficient, low-polygon mesh over the top of a "messy," high-polygon mesh (which often comes from 3D sculpting or scanning.

Tutorial :
e-Tools: 256^3, 512^3, 1024^3, 1536^3; 3d-mesh generator.
Activity: This is a practical workshop on generating 3D assets from 2D images.

1. Using concept art (Characters, Props, or Worlds) and using it as input for the AI models.
2. We'll compare the outputs from each tool, discussing speed, model quality, mesh density.
3. Perform remesh/retopology on a mesh.

Assignment :
Generated Models: Share screenshots of the 3D models generated from at one of the specified AI tools (eg. `Tripo-SR`, `Tripo-SG`, `Tripo-SF` or `Trellis-v2.0`).
Include at least one screenshot showing the 3D model's wireframe.

Due Date : Week 11


Blender Guru. "Beginner Blender Tutorial (2026)." YouTube, 14 Jan. 2026, www.youtube.com/watch?v=z-Xl9tGqH14. Accessed 14 Jan. 2026.

Digitalist. "Every 3D Concept Explained (Basics)." *YouTube*, 15 Sept. 2025, www.youtube.com/watch?v=p3MU7J-0284. Accessed 26 Nov. 2025.

Digitalist. "3D Modelling Explained (Basics)." *YouTube*, 6 Oct. 2025, www.youtube.com/watch?v=bChytx8PHvU.

Institute for Manufacturing (IfM), University of Cambridge. "What Is 3D Printing?" *YouTube*, 21 Dec. 2017, www.youtube.com/watch?v=bcTzyx35odY.

Stefan 3D AI Lab. "Ep.1 Mesh Editing (Sculpting) - from AI to Game-Ready." *YouTube*, 9 Oct. 2025, www.youtube.com/watch?v=ouHL_Rlebss. Accessed 26 Nov. 2025.

Stefan 3D AI Lab. "Ep.2 Mesh Optimization (Retopology) - from AI to Game-Ready." *YouTube*, 16 Oct. 2025, www.youtube.com/watch?v=-5zAPGdYjts. Accessed 26 Nov. 2025.

Orange Turbine. "Retopoflow 4 Beta: Full Walkthrough." *YouTube*, Apr 28, 2025. www.youtube.com/watch?v=o5hSMSVtGnU.

The Joy of Blender. "Blender Character Tutorial - Part 6 (Mouth & Teeth)." *YouTube*, 22 Jan. 2024, www.youtube.com/watch?v=R4GPER0C5As.

Ryan King Art. "How to Use the Boolean Modifier in Blender (Tutorial)." *YouTube*, 4 June 2024, www.youtube.com/watch?v=CHqH5oz0DvQ.

Ryan King Art. "Understanding Object Origins in Blender." *YouTube*, 2 Oct. 2023, www.youtube.com/watch?v=9gn_1V1sCS8. Accessed 9 Dec. 2025.

Ryan King Art. "Understanding Parenting in Blender." *YouTube*, 22 Dec. 2023, www.youtube.com/watch?v=5oclP4hQndc. Accessed 22 Nov. 2024.

FredericCervini. "Maya to Blender Tips: How to Move Your Pivot Point (Origin Point) like in Maya." YouTube, 15 June 2022, www.youtube.com/watch?v=7hCHlaf7t5k. Accessed 20 Feb. 2026.

My CG Tutor. "How to Freeze Transforms in Blender (like Maya)." *YouTube*, 19 Dec. 2024, www.youtube.com/watch?v=jo_myEEIDt0. Accessed 15 Dec. 2025.

Title-Of-Lesson-11: **Look Development**

Aim : To introduce the "Look Development" pipeline, covering the technical preparation of 3D model-textures (UVs, baking, edit) and the application of modern AI tools to generate final textures.

Objectives :

1. Explain the critical role of UV Unwrapping in the texturing process.
2. Differentiate between PBR (Physically Based Rendering) and, NPR (Non-Photorealistic Rendering).
3. Utilize AI-driven models (e.g., `sd`, `hunyuan3D-2.1`, `StableGen`) to generate PBR or NPR texture maps for 3D meshes.
4. Apply generated textures to various asset types, including characters, props, and world elements via Texture-Edit.
5. Examine a toon-shader.
6. Describe the workflow for Texture-Transfer/Re-Baking (e.g., high-poly detail to low-poly map).
7. Create 3-Point-Lighting to the assets/textures.

Required Materials: computer, e-tablet, e-pencil, e-tool: Blender-v5.0.0

Lecture :
UV Unwrapping principles, the process of Texture-Transfer from one model to another, and "Re-Baking" essential maps (like normal, ambient occlusion, or curvature). Texture-Edit in external e-painting application (eg. Krita, Photoshop).

Tutorial :

1. Applying generative models (`sd`, `hunyuan3D-2.1`, `StableGen`) to create textures, for <Characters/Props/World> assets in both PBR and NPR styles.
3. Transfer textures between 3d-meshes.

Assignment :
Students must take a provided 3D model (e.g., a prop or a simple character) and use an AI tool (`sd`, `hunyuan3D-2.1`, `StableGen`) to generate a complete PBR texture set. They will then apply/transfer these textures to the model and submit a final Render.

Due Date : Week 12

Digitalist. “3D Materials Explained (Basics).” *YouTube*, 19 Oct. 2025, www.youtube.com/watch?v=abo6ikU-Lx8. Accessed 26 Nov. 2025.

Digitalist. “UV Unwrapping Explained (Basics).” *YouTube*, 28 Oct. 2025, www.youtube.com/watch?v=gyAUPl_PMRQ. Accessed 26 Nov. 2025.

Stefan 3D AI Lab. “Ep.3 UV Map & Normal Baking - from AI to Game-Ready.” *YouTube*, 21 Oct. 2025, www.youtube.com/watch?v=wCZcYKI-tGg. Accessed 26 Nov. 2025.

Stefan 3D AI Lab. “Ep.4 Texturing (Painting) - from AI to Game-Ready.” *YouTube*, 28 Oct. 2025, www.youtube.com/watch?v=L_uPx5z4y5c. Accessed 26 Nov. 2025.

PolyPaint. “Game-Changing Texture Painting Trick for Blender.” *YouTube*, 30 Oct. 2024, www.youtube.com/watch?v=lOuBC1OeODc. Accessed 27 Nov. 2025.

Craft Reaper. “Complete Guide of Hand Painting Game Assets in Blender with Ucupaint.” *YouTube*, 22 Jan. 2025, www.youtube.com/watch?v=5nwoGU_ZmhY. Accessed 11 May 2025.

Agni Rakai Sahakarya. “How to Bake Other Object Channel Easily in Blender 3D | Ucupaint.” *YouTube*, 11 Jan. 2024, www.youtube.com/watch?v=QCtoE6CqOR4. Accessed 15 Dec. 2025.

  

Title-Of-Lesson-12 : **Armature Development**

Aim : To understand and build the technical rig required to bring a static 3D model to life, distinguishing between rigs for hard-surface objects and organic characters. Create a rig/shapekeys with automated tools for retargeting.

Objectives :

1. Define rigging and explain its role in the 3D animation pipeline.
2. Exam a simple non-deform/deform rig for a mechanical/organic object by setting pivots and parent/child, armature hierarchies.
3. Exam controllers to manipulate a rig.
4. Explain the concept of skinning/binding and weight painting for organic models.
5. Use an auto-rig template (like Rigify) to generate a "meta-rig" for a character.
6. Use an auto-rig-face template (like Faceit) to generate "52-shapekeys" for character.
7. Test a rig by posing it to find and fix deformation errors.

Required Materials: computer, e-mouse, e-tool: Blender-v5.0.0

Lecture :

This theory-focused lecture covers the manual process and concepts of building a rig from scratch.Setting pivots, establishing child/parent hierarchies, creating controllers, joint orientation, the binding/skinning process, painting skin weights, and testing the rig for good deformation. A rig is the "digital skeleton" and control system that allows an animator to pose and move a 3D model.

1. Non-Deform (Mechanical) Rigs: For objects that don't bend. Relies on pivots and hierarchies.
2. Deform (Organic) Rigs: For objects that bend. Relies on a skeleton, skinning, and weighting.

Tutorial :

Using a template (specifically: Rigify-HumanMetaRig, Faceit) to quickly generate a complex, production-ready rig with 52-Artkit-blendshapes (shape-keys) for a bipedal character.

Assignment :

Using the Rigify-HumanMetaRig template, students will rig a provided bipedal 3D model. They must then pose the character in three distinct poses and submit screenshots to demonstrate the rig is functional.

Due Date : Week 13


Carlino, Joey. “Rigging for Impatient People - Blender Tutorial.” *Youtube*, 5 May 2023, www.youtube.com/watch?v=DDeB4tDVCGY.

5OOOXOOOO3. “How to Add and Color Controllers in Blender 3D.” *YouTube*, 15 June 2023, www.youtube.com/watch?v=MsaizyiaiZY.

Matthew DeSa Art. “Rigging Ball and Tail in Blender Livestream.” *YouTube*, 12 Mar. 2024, www.youtube.com/watch?v=nNEx36i5jI8. Accessed 29 Nov. 2025.

Wee learn from Mobile. “How to Model & Rig Simple Pendulum in Blender.” *YouTube*, 13 May 2023, www.youtube.com/watch?v=1eCQUI4Smco.

Richstubbsanimation. “Amazingly EASY Way to Rig Characters in Blender 4.0.” *Youtube*, www.youtube.com/watch?v=jIwrswJEFBQ.

Richstubbsanimation. “How to Quickly Rig IK FK in Blender (for Beginners).” *YouTube*, 8 Mar. 2024, www.youtube.com/watch?v=xEnu_Esnzjl.

CGDive (Blender Rigging Tuts). “RIGGING L2-8 : EASY Face Rigging That Even Beginners Can Do.” *YouTube*, 9 Apr. 2025, www.youtube.com/watch?v=ykB4gBQgFOU. Accessed 16 Dec. 2025.

Red Belly Media. “Rig Faces Faster - FACE-IT Blender Add On.” *YouTube*, 21 July 2023, www.youtube.com/watch?v=U1wpH_d-Fbg. Accessed 28 Nov. 2025.

22722studios. “Blender Rigging Upgrade! Rig-GNS 4.1 Now Works on Non-Daz Characters.” *YouTube*, 12 Nov. 2025, www.youtube.com/watch?v=yPyzFjlrFa8. Accessed 16 Jan. 2026.

Digitalist. “Every Rigging Concept Explained, in 3D.” *YouTube*, 15 Dec. 2025, www.youtube.com/watch?v=1ufelPub3B0. Accessed 16 Dec. 2025.

Blenera. “Blender Tutorial: Face Rig with Rigify for Beginners.” *Youtube*, Oct 25, 2022 www.youtube.com/watch?v=VUWdMeCqz0c.

Eve Sculpts.“Blender Tutorial - Use Rigify to Easily Rig Your Characters (Part 1).” *Youtube*, Dec 10, 2021 www.youtube.com/watch?v=umtig82NGdk.

Eve Sculpts.“Blender Tutorial - Use Rigify to Easily Rig Your Characters (Part 2).” *YouTube*, 30 Dec. 2021, www.youtube.com/watch?v=f3fn6JK0VrY.


  

Title-Of-Lesson-13 : **Motion Development**

Aim : To capture realistic human performances using accessible motion capture tools and apply .. that data to the custom character rigs created in the previous week.
Objectives :
1. Understand the end-to-end motion capture pipeline: detect, calibrate, record, process, and view data.
2. Use Deadface-v1.0 to capture facial expressions and head movement.
3. Use FreeMoCap-v2.0 to capture full-body motion.
4. Define and execute retargeting to transfer mocap data from a source skeleton to their Rigify rig.
5. Layer and combine separate face and body animation data into one unified performance.

Required Materials : 1xcamera, Laptop (≤16gb ram) (≤256gb ssd), e-Mouse, Microphone, ≤50mbps internet, room
Optional Materials : 2xWebCam, 2xUSB-C Cable, 2xTripods, 1xChArUco-Board, 1xHeargear

Lecture :
Calibrate Cameras:
The process of setting up the capture environment so the software understands the 3D space.

Record Footage:
Capturing the actor's performance from one or more angles.

Process Data:
The "solving" phase, where the software analyzes the video footage and generates 3D coordinates or a solver skeleton.

View Data:
Cleaning and reviewing the captured data for any noise, jitter, or errors before applying it to the final character.

Tutorial 1: “Face” - Motion Capture (e-Tool: Deadface-v1.0)
- Activity: Students will use their webcams to capture their own facial performance. This will involve recording a few lines of dialogue or a series of strong expressions and exporting the resulting animation data.

Tutorial 2: “Body” - Motion Capture (e-Tool: FreeMoCap-v1.7/v2.0)
- Activity: Students will set up a camera and record themselves performing a simple, clear full-body action . They will then process this footage through FreeMoCap to generate the 3D body motion data.

Tutorial 3: Retargeting (Face & Body) (Faceit x BlendarMoCap)
- Activity: This is the core technical step of applying the captured data.
  - Body: Students will import their FreeMoCap data and use a retargeting interface to map the motion from the mocap skeleton onto their character's Rigify rig.
  - Face: Students will connect the data from FaceLandmarkLink to the facial controls on their Rigify rig.

Tutorial 4: Layering the Performance
- e-Tool: 3D Software's animation editor (e.g., Blender's Non-Linear Animation Editor) (or Add-on)
- Activity: Students will combine the two separate animation files.
- Process: The body motion will be set as the base animation layer. The facial animation will then be added as a separate layer on top, allowing both to play simultaneously and create one complete performance.

Assignment : using the techniques discussed in class, create two mcp-s from your animatic.
Due Date : Week 14

Alex on Story. “How to Animate in Blender: Learning the Basics.” *YouTube*, 1 Mar. 2024, www.youtube.com/watch?v=sM4_rbrQMpo. Accessed 22 Dec. 2025.

Alex on Story. “How to Animate in Blender: Learning the Basics | Part 2.” *YouTube*, 13 Mar. 2024, www.youtube.com/watch?v=34IfSEusWCA. Accessed 29 Nov. 2025.

Alex on Story. “How to Animate in Blender: Learning the Basics | Part 3.” *YouTube*, 8 Apr. 2024, www.youtube.com/watch?v=ENnPtjT5mBs. Accessed 22 Dec. 2025.

Alex on Story. “Mastering the Blender Walk Cycle: Tips and Tricks for Animators!” *Youtube*. www.youtube.com/watch?v=MzJZ7yEEgRA. Accessed 26 Apr. 2023.

Alex on Story. “Pose to Pose : Blender Animation Workflow for Beginners.” *Youtube*, 16 July 2023, www.youtube.com/watch?v=p8Bi7k60IS0.

Rokoko. “Everything You Need to Know about MOCAP | Inertial, Optical, AI | Rokoko Office Hours.” *YouTube*, 14 Sept. 2023, www.youtube.com/watch?v=C_pT_EtZYto. Accessed 26 Nov. 2025.

Rokoko. “2025 Best BLENDER Motion Capture Workflow | Rokoko Tutorial.” YouTube, 29 Jan. 2025, www.youtube.com/watch?v=bYNnu60V8Oo. Accessed 16 Jan. 2026.

Jon Matthis. “HMN24 - 01 - Intro to Data Collection.” *YouTube*, 24 Sept. 2024, www.youtube.com/watch?v=VfSQ43VBG28. Accessed 26 Nov. 2025.

cg tinker. “BlendArMocap Is Getting Wild - Custom Transfer, Freemocap and More.” *YouTube*, 3 Mar. 2023, www.youtube.com/watch?v=qtHf84YJvhk. Accessed 26 Nov. 2025.

Digitalist. “3D Animation Explained (Basics).” *YouTube*, 10 Nov. 2025, www.youtube.com/watch?v=keKNzdYiaBc. Accessed 26 Nov. 2025.

Joey Carlino. “Make Your Animation 10x Better with LAYERS - Blender Tutorial.” *YouTube*, 20 July 2024, www.youtube.com/watch?v=Vud9Ora9IwE. https://www.youtube.com/watch?v=91O4uU3qHCw&t

  

Title-Of-Lesson-14 : **VFX Integration Development**

Aim : To explore advanced motion development techniques (VFX/FX) and introduce a comprehensive suite of AI-driven tools for generative media, 3D-motion-composition enhancement.

Objectives : Create video.

Required Materials:
- A computer with a dedicated GPU or Online-Demo-Space
- Stable internet access (for [online-demo-space])
- Access to the specified AI models and software
- (`Z-Image`, `LTX-2`, `sam`, `ColmapxGolmap`, `MVInverse/c-t-d-r`, `DiT360`, `ESRGAN`)

Lecture : A deeper dive into Visual Effects (VFX) and Special Effects (FX)

Tutorial :
1. Image Generation (t2i, i2i):
2. Video Synthesis (t2v, i2v, v2v, a2v, i2vWa):
3. 3D-Camera-Estimation:
4. Segmentation
5. AI Re-Lighting: Manipulating PBR maps (albedo, normal, depth, metallic, roughness) with tools.
6. Panoramic/HDRI Generation: Using text/inPainting/outPainting for 360° environments.
7. AI Upscaling: Enhancing image/video resolution to >4K.

Assignment : Create a video using vfx-replacement/influence-techniques to alter characters, props, … background, sim-effects, lighting,

Due Date : Week 15


Jacob Zirkle. “Learn Green Screen VFX in Blender in under 7 MINUTES.” *YouTube*, www.youtube.com/watch?v=t2WlJlXDNjA.

Jacob Zirkle. “The Best Method for Camera Tracking in Blender 5.0.” *YouTube*, 4 Nov. 2025, www.youtube.com/watch?v=Jdc3hHHOdnk. Accessed 8 Dec. 2025.

Jacob Zirkle. “Is This New Blender Camera Tracker Addon Worth It?” YouTube, 14 Aug. 2025, www.youtube.com/watch?v=0xXVKlQxOR8. Accessed 10 Dec. 2025.

Jacob Zirkle. “How to Remove Tracking Markers in Blender.” *YouTube*, 22 Sept. 2023, www.youtube.com/watch?v=dPO2SQWV5_0. Accessed 10 Dec. 2025.

Jacob Zirkle. “How to Create Hollywood-Level VFX Using Motion Capture in Blender 5.0.” YouTube, 15 Jan. 2026, www.youtube.com/watch?v=Uq6-sn4fE8w. Accessed 16 Jan. 2026.

Vox. “Why Visual Effects Artists Love This Shiny Ball.” *Youtube*, www.youtube.com/watch?v=HCfHQL4kLnw.

InLightVFX. “Finally! A VFX Workflow with Less Guesswork.” *YouTube*, 1 Feb. 2023, www.youtube.com/watch?v=G2SacOKhJto.

Michael Chu. “Green Screen Removal in Blender (A.k.a Chroma Key, 39).” YouTube, 20 Sept. 2023, www.youtube.com/watch?v=49TFm7LEfkk. Accessed 30 Jan. 2026.

Thies Grünewald. “VFX with Blender and Beeble Switchlight 2.0.” *YouTube*, 29 July 2025, www.youtube.com/watch?v=6fphiju5HKg. Accessed 26 Nov. 2025.

TechSimplify. “How to Adjust Exposure on IPhone Camera?” *YouTube*, 15 Sept. 2024, www.youtube.com/watch?v=3mO6wWzvcMI.

Creative Pad Media. “GIMP HDR Tutorial - How to Merge Different Exposures with One Click.” *YouTube*, 22 Nov. 2023, www.youtube.com/watch?v=Ot7iGhiam6U. Accessed 26 Nov. 2025.

Alexander Kiryanov. “Meshroom. Hugin. Create 360 Degree HDRI Panorama (Free PTGui Alternative).” *YouTube*, 22 Nov. 2020, www.youtube.com/watch?v=iufXTCPln_Q. Accessed 2 Jan. 2026.

Default Cube. “I’ll Teach You Geometry Nodes.” *YouTube*, 28 Dec. 2025, www.youtube.com/watch?v=JU70u6cJZqI. Accessed 21 Jan. 2026.


  

**(PRJ00) Project – Individual/Group Project**

**Individual/Group Short Film (1minutes - 15minutes) (250 marks)**
**Pre-Production, Production and Post-production, Marketing and Distribution**.
(By Group [≥6 memebers], or Individually produce a short film. This Project has five [5] sections.)
(Yearly-Due-Date: June-01/August-01/December-01) (Yearly-Result-Date:June-30/August-31/December-31)
(To document the project create five [5] folders, for the sections of the project)
(share Cloud-Drive permissions to either of the email addresses.)
Email: <iodaj@proton.me> <israelandrewbrown@proton.me> <israelandrewbrown@gmail.com>

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**Section One - Pre-production (20%)**
Construct a film-preproduction-package (.pdf or .cbz) containing the following:

1. Research-Paper/Presentation (When, Where, Who, Why, What)
2. Treatment (Author, Title, Log-line, Synopsis, Characters)
3. Screenplay (three-act-structure)(use standard-screenplay-software)(3pages ≤ *x* ≤ 15pages)
4. Concept Art (Title-Card)
   Concept Art (characters - two [≤2]) (antagonist and protagonist)
   - 1 x bio,
   - Turnarounds x 5-views, or; t-pose/a-pose views; or; front and back,
   - 6 x face expressions,
   - 1x or; 6x action poses,

   Concept Art (props)
   Concept Art (environment [hemisphere]) (set [cube]) (segmentation) (composition)
5. Story-Beats/Lighting-Diagram (coloured-images of important events/panels of scene)
6. Pre/Post-Storyboard (colour coded characters, direct of movement, camera movement)
7. Pre/Post-Animatic(panel/keyframe, camera movement, sound effects and expressive voiceover)
8. Shot List (scene no., shot no.,shot type, shot descr., camera movement, Location)
9. Expenditure (Gantt-Chart, Human resources, Software/Equipment and Budget)
10. Funding (Greenlight Statement - Proof-Of-Funding)

[Presentation Of “Pre-production”.]

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**Section Two - Production (20%)**
Catalogue (.zip)and(.txt) of the file & file-structure for the following artificially generated digital assets:

1. Asset_Text - (Text-Concept) (.txt)(.fountain)
2. Asset_Imagery - (Visual-Concept) (.jpeg)(.exr)(.mkv)
3. Asset_Audio - (Expressive-Voiceover, Sound Effects, Music, Subtitles) (.FLAC)(.srt) (.aaf)
4. Asset_Mesh - (Character-Prop-World [Mesh x PBR-Texture]) (.usd)(.stl)(.glb)(.ply)
5. Asset_MotionCaptureData - ([2d-pose/3d-pose] [Input data, output data]) (.csv)(.mkv)

[Presentation of the file & file-structure for the all digital assets catalogure.]

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**Section Three - Post-production (20%)**
Create a; Physically-Based-Rendering (PBR) or Non-Photorealistic-Render (NPR) styled film (.pdf/.cbz)**:**

1. Modification of “artificially generated digital assets”.
2. Composition of “artificially generated digital assets” into a complete shot.
3. Utilization of FX, VFX (part-scene-replacement, relighting), to enhance film composition.
4. Arrangement of shots through video editing and color grading.
5. Compilation of shots as a singular sequence.

[Presentation of the all finalized rendered story-beat/s as an image/images.]

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**Selection Four - Marketing (20%)**
Create and deploy a website or Youtube® Channel (.pdf / .cbz) for the studio.

1. Brand Identity (logo, font, colour-palette, etc.)
2. Poster (YouTube Thumbnail) (Cover Art) (Title Card)
3. Studio Information (Home, About, Contact [Studio and Workers], Blog, Merch [optional])
4. Credits Sequence (video and spreadsheet)
5. Research (Abstract, Methodology, Results, Discussion, References)
   <Grant, Direct-Promotion, Indirect-Promotion, Rebate, Tax-Credit.>
   [Presentation of the webpage.]

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**Section Five - Distribution (20%)**
[Optional Distribution through Film Festival]
YouTube® Channel Creation - Upload in order. (H.264/H.265 codec) (≥720p). (5 x .mkv)

1. Teaser - Title Card (Thirty [10] seconds)
2. Teaser (Ten-Thirty [10-30] seconds)
3. Trailer (one [1] minute - three [3] minutes)
4. Behind-the-scenes Documentary (15-60 minutes)
   a. Teaser at the beginning and title card at end
   b. Footage of some of the work being done.
   c. Processes and visual breakdown of artificially generated digital assets.
   d. Interview of the project manager/director/lecturer.
5. Completed Short Film (1-15 minutes)

[There should be five (5) videos on the channel/profile playlist at completion.]

**Donate Bitcoin: bc1qdjsljjzj4x83v28ks0l3cvwdkqvhyfggzc2w8v**

| **Section One - Pre-production (20%)** | | Exam-Only [ ] |
|---|---|---|
| **Component** | **Criteria-Checklist** | **Score** |
| [ ] Research | [ ] What, [ ] Why, [ ] Who, [ ] Where, [ ] When<br>[ ] Sources Cited<br>[ ] Visuals Used<br>[ ] Gammar<br>[ ] Mood-Board (visuals-used-on-one-page)<br>[ ] Professionalism | /10 |
| [ ] Treatment | [ ] Title/Author<br>[ ] Log-line<br>Summary - [ ] Synopsis: Act 1, [ ] Synopsis: Act 2, [ ] Synopsis: Act 3,<br>[ ] Protagonist Bio-Summary<br>[ ] Antagonist Bio-Summary<br>[ ] Grammar<br>[ ] Correct Format<br>[ ] Maximum-Two-Pages | /10 |
| [ ] Screenplay | [ ] Dedicated Software Used<br>[ ] Scene Headings, [ ] Action Lines, [ ] Dialogue<br>[ ] Official-Screenplay-Format<br>[ ] Act 1 Setup, [ ] Act 2 Conflict, [ ] Act 3 Resolution<br>[ ] Relevant-to-treatment<br>[ ] Gammar | /10 |
| [ ] Character Concept | [ ] Protagonist Bio<br>[ ] Antagonist Bio<br>Protagonist - [ ]Turnaround, [ ] Face Expressions, [ ] Action Poses,<br>Antagonist - [ ]Turnaround, [ ] Face Expressions, [ ] Action Poses,<br>[ ] Technical-Consistency<br>[ ] Annotation | /10 |
| [ ] Prop Environment | [ ] InteriorSet-Design-Sheet-Segmentation, [ ] InteriorSet-Deign-Sheet-Cube,<br>[ ] ExteriorSet-Design-Sheet-Segmentation, [ ] ExteriorSet-Design-Sheet-Hemisphere,<br>[ ] Variation, [ ] Functionality, [ ] Painted/Toon/PBR,<br>[ ] Relevance, [ ] Format, [ ] Colour, [ ] Annotation | /10 |
| [ ] Shot-List | [ ] Scene/Shot No., [ ] Shot Type, [ ] Shot Description, [ ] Camera Movement<br>[ ] File-Format, [ ] Completeness, [ ] Clarity/Organization, [ ] Variety<br>[ ] Physiological-Narrative-Function, [ ] Physical-Feasibility | /10 |
| [ ] StoryBoard | [ ] Visual Clarity<br>[ ] Matches Script, [ ] Storytelling, [ ] Historically-Correct-Pacing<br>[ ] Continuity, [ ] Composition<br>[ ] Color-Coding, [ ] Character Movement Arrows, [ ] Camera Movement Arrows,<br>[ ] Format | /10 |
| [ ] Storybeats Animatic | [ ] Includes Story-Beats<br>[ ] Story-board (Indictaction-Of-Direction)<br>Temporary - [ ] Voiceover, [ ] Sound FX, [ ] Music, [ ] Subtitles, [ ] Audio-Sync<br>[ ] Movement-Of-Panels (Animation)<br>[ ] Use of 2d/3d assets/space<br>[ ] Technical Quality | /10 |
| [ ]Expenditure | [ ] Gantt Chart (Schedule)<br>[ ] Human Resources (Roles), [ ] Software, [ ] Equipment List<br>[ ] Budget, [ ] Cash-Flow-Projection, [ ] Profit-And-Loss-Statement,<br>[ ] Error-Free [ ] Format | /10 |
| [ ] Funding | [ ] Singular-Copyright-Holder-Document, (OptionA - 10 marks)<br>[ ] Receipts/Agreement (OptionB - 10 marks) | /10 |
| Total | | /100 |

| Section Two - Production (20%) | | | Exam-Only [ ] |
|---|---|---|---|
| **Component** | **Summarized-Criteria** | **Detailed-Criteria-Checklist** | **Score** |
| Text | Organized text assets in specified formats (.txt, .fountain). | [ ] Prompt Clarity & Effectiveness<br>[ ] Proper Syntax (.txt /.foun / .pdf)<br>[ ] Adheres to Pre-Production Docs<br>[ ] Low-Hallucination<br>[ ] Grammar | /5 |
| Imagery (4k) | High-res visual assets matching screenplay (.jpeg, .mkv). | [ ] Resolution: Minimum resolution:720x400px/ Maximum resolution:1920×1080 (HD).<br>[ ] Coherent w/ Concept Art<br>[ ] Stylized<br>[ ] Colored-Renders<br>[ ] Variety of Shots/Angles | /5 |
| Audio (48kHz) | Lossless audio (.FLAC) and timed subtitles (.srt). | [ ] Expressive Voiceover<br>[ ] Subtitle Sync & Accuracy (.srt)<br>[ ] Sound Design (SFX)<br>[ ] Music<br>[ ] Audio: 48kHz sound PCM (only uncompressed) MP3 AAC (if possible > 160 kBit/s) | /5 |
| Mesh | 3D models with clean topology, UVs, and PBR textures. | [ ] Optimized-Mesh-Retopology<br>[ ] UV-Unwrapping, High-Quality PBR Textures<br>[ ] Altered-Transforms<br>[ ] Pivot, Manipulators<br>[ ] Parent/Child, Hierarchy | /5 |
| Motion-Capture-Data | Complete mocap sets: input video (.mkv) and output data (.csv)(.mkv). | [ ] Input Video (.mkv)<br>[ ] Output Data (.csv) (.mkv)<br>[ ] facial and body, capture layered<br>[ ] Matches Storyboard/Animatic<br>[ ] Usable Data (Applies to Rig) | /5 |
| Total | | | /25 |

| **Signature and Stamp Of Examiner:** | **Signature and Stamp Of Examiner:** | **Signature and Stamp Of Examiner:** | **Signature and Stamp Of Examiner:** | **Signature and Stamp Of Examiner:** |
|---|---|---|---|---|
| TRN | TRN | TRN | TRN | TRN |
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| Candidate: | TRN: 000-000-000 | Name: | Signature: | DD/MM/Year |
| Candidate: | TRN: 000-000-000 | Name: | Signature: | DD/MM/Year |
| Candidate: | TRN: 000-000-000 | Name: | Signature: | DD/MM/Year |

| Section Three - Post-production (20%) | | | Exam-Only [ ] |
|---|---|---|---|
| **Component** | **Criteria Summary** | **Detailed-Criteria-Checklist** | **Score** |
| Modification | Manually cleaned, refined, and documented assets to be production ready. | [ ] Fix Grammatical Errors<br>[ ] Mesh Cleanup & Retopology<br>[ ] Texture Adjustments & Painting<br>[ ] Rig Refinements<br>[ ] Mocap Data Cleaning & Smoothing<br>[ ] Audio Mastering & Mixing<br>[ ] Visual Asset Enhancement<br>[ ] Seamless Integration of Changes<br>[ ] Technical Problem-Solving<br>[ ] Consistency with Art Direction | /10 |
| Composition | Complete film edit matching storyboard/storybeats and script. | [ ] Logical Scene Assembly<br>[ ] Effective Shot Sequencing<br>[ ] Adheres to Storyboard<br>[ ] Flow Screenplay Narrative<br>[ ] Consistent Pacing & Rhythm<br>[ ] Effective Camera Work in Scene<br>[ ] Seamless Asset Integration<br>[ ] Maintains Continuity<br>[ ] Establishes Emotional/Atmosphere/Mood<br>[ ] Coloured-Render | /10 |
| FX, VFX | Technically integrated and synchronized visual effects. | [ ] VFX (Re-lighting/Lighting)<br>[ ] VFX (Object/Prop Replacement)<br>[ ] VFX (Character Replacement)<br>[ ] VFX (Background Replacement)<br>[ ] VFX (3D-Camera-Tracking)<br><br>Use any of the five listed FXs: [1 mark each]<br>- [ ] Frost,<br>- [ ] Fog,<br>- [ ] Rain,<br>- [ ] Lighting,<br>- [ ] Smoke,<br>- [ ] Fire,<br>- [ ] Dust,<br>- [ ] Gravity/Anti-Gravity | /10 |
| Video-Editing | Fully edited, color-corrected, and graded film. | [ ] Effective Pacing & Timing<br>[ ] Purposeful Transitions<br>[ ] Use-Of-Cuts<br>[ ] Audio/Video Sync<br>[ ] Audio Music-Mix<br>[ ] Consistent Color Palette<br>[ ] Color Enhances Mood<br>[ ] Correct Exposure & Contrast<br>[ ] Use of Color<br>[ ] Non-Noisey Final Cut | /10 |
| Presentation | Final film exported to technical specs with credits. | [ ] Uploaded in standard formats such as .mp4, .mkv, .mov, or .mpeg.<br>[ ] Codec: MJPEG H264<br>[ ] Resolution: Min:720x400px/ Max:1920×1080 (HD).<br>[ ] File Size: The film file should generally not exceed 8 GB.<br>[ ] Audio/Video Code: Multiplexed files (audio, video, subtitles in file) .<br>[ ] Progressive (deinterlaced) footage is recommended.<br>[ ] Audio: 48kHz sound PCM (only uncompressed) MP3 AAC ( > 60 kBit/s)<br>[ ] Subtitles: The subtitles have to be integrated (burned in) in the image.<br>[ ] Duration: Entries must be at least 60 seconds ≥ x ≥ 15 minutes..<br>[ ] No watermarks or social handle text on screen) | /10 |
| Total | | | /50 |

| Section Four - Marketing (20%) | | | Exam-Only [ ] |
|---|---|---|---|
| **Component** | **Criteria Summary** | **Criteria-Checklist** | **Score** |
| Brand Identity | Brand guide PDF with vector logo, colors, and fonts. | [ ] Logo Design<br>[ ] Logotype/Font<br>[ ] Color Palette<br>[ ] Color and Non-Color Render<br>[ ] .pdf | /5 |
| Promotional Artwork | Poster, thumbnail, and title card created to spec. | [ ] Poster Composition & Impact<br>[ ] YouTube Thumbnail (Clear, Clickable)<br>[ ] Title Card Design<br>[ ] High-Resolution-Poster (above 720p)<br>[ ] Correct Aspect Ratios (2:3, 16:9, 4:3) | /5 |
| Studio Website | Functional, responsive website with all required pages. | [ ] Home Page:<br>[ ] About Page: Contains at least 100 words about the studio.<br>[ ] Contact Page: Includes a functional mailto: link or contact form.<br>[ ] Blog Page: Contains at least one post.<br>[ ] Navigation: A navigation bar is present on all pages. | /5 |
| Credits Sequence | Video credits sequence accompanied with spreadsheet. | [ ] Video: Credits are included in the final film video file.<br>[ ] Music: Credit roll has a music track.t.<br>[ ] All team members are included in the spreadsheet.<br>[ ] Formatting: Spreadsheet has columns for "Role"& "Name".<br>[ ] Logos: Required partner/software logos are present. | /5 |
| Promotion & Financial Strategy | Strategy document with research, plans, and budget. | 5-mark awarded for research/documentation of one the following:<br>- Grant Research (Suitable options)<br>- Direct-Promotion Research (e.g., ads)<br>- Indirect-Promotion Research<br>- Rebate Research<br>- Tax-Credit Research<br>[ ] Abstract,<br>[ ] Methodology,<br>[ ] Results,<br>[ ] Discussion,<br>[ ] Reference | /5 |
| Total | | | /25 |

| Section Four - Distribution (20%) | | | Exam-Only [ ] |
|---|---|---|---|
| **Category** | **Summary** | **Criteria-Checklist** | **Marks** |
| **Title Card Teaser** (10 seconds) | Branded YouTube channel with 10s title card teaser uploaded. | [ ] Files must be uploaded in standard formats such as .mp4, .mkv, .mov, or .mpeg.<br>[ ] Codec: MJPEG H264.<br>[ ] Resolution: Minimum resolution:720x400px/ Maximum resolution:1920×1080 (HD).<br>[ ] File Size: The film file should generally not exceed 8 GB.<br>[ ] Audio/Video Code: Multiplexed files (audio, video, subtitles in a single file) preferred.<br>[ ] Progressive (deinterlaced) footage is recommended.<br>[ ] Audio: 48kHz sound PCM (only uncompressed) MP3 AAC (if possible > 160 kBit/s)<br>[ ] Subtitles: The subtitles have to be integrated (burned in) into the image.<br>[ ] Duration: Entries must be at least 60 seconds ≥ x ≥ 15 minutes..<br>[ ] No watermarks or social handle text on screen<br>[ ] Deduction of category marks awarded, if video uploaded is not relevant to treatment.<br>Video URL: www.youtube.com/ | /10 |
| **Teaser** (10-30 seconds) | 10-30s non-spoiler video teaser uploaded. | [ ] Files must be uploaded in standard formats such as .mp4, .mkv, .mov, or .mpeg.<br>[ ] Codec: MJPEG H264.<br>[ ] Resolution: Minimum resolution:720x400px/ Maximum resolution:1920×1080 (HD).<br>[ ] File Size: The film file should generally not exceed 8 GB.<br>[ ] Audio/Video Code: Multiplexed files (audio, video, subtitles in a single file) preferred.<br>[ ] Progressive (deinterlaced) footage is recommended.<br>[ ] Audio: 48kHz sound PCM (only uncompressed) MP3 AAC (if possible > 160 kBit/s)<br>[ ] Subtitles: The subtitles have to be integrated (burned in) into the image.<br>[ ] Duration: Entries must be at least 60 seconds ≥ x ≥ 15 minutes.<br>[ ] No watermarks or social handle text on screen<br>[ ] Deduction of category marks awarded, if video uploaded is not relevant to treatment.<br>Video URL: www.youtube.com/ | /10 |
| **Trailer** (1-3 minutes) | 1-3 minute story-based trailer uploaded. | [ ] Files must be uploaded in standard formats such as .mp4, .mkv, .mov, or .mpeg.<br>[ ] Codec: MJPEG H264.<br>[ ] Resolution: Minimum resolution:720x400px/ Maximum resolution:1920×1080 (HD).<br>[ ] File Size: The film file should generally not exceed 8 GB.<br>[ ] Audio/Video Code: Multiplexed files (audio, video, subtitles in a single file) preferred.<br>[ ] Progressive (deinterlaced) footage is recommended.<br>[ ] Audio: 48kHz sound PCM (only uncompressed) MP3 AAC (if possible > 160 kBit/s)<br>[ ] Subtitles: The subtitles have to be integrated (burned in) into the image.<br>[ ] Duration: Entries must be at least 60 seconds ≥ x ≥ 15 minutes.<br>[ ] No watermarks or social handle text on screen<br>[ ] Deduction of category marks awarded, if video uploaded is not relevant to treatment.<br>Video URL: www.youtube.com/ | /10 |
| **Behind-the-Scenes Doc.** (<15 minutes) | BTS video (<7m) with all required segments uploaded. | [ ] Uploaded: The BTS is the fourth video on the channel.<br>[ ] Content Req. 1: Includes footage of work being done.<br>[ ] Content Req. 2: Includes visual breakdown of five types of assets.<br>[ ] Content Req. 3: Includes an interview segment.<br>[ ] Structure: Includes an opening title card.<br>[ ] Length: The video runtime is over 15 minutes.<br>[ ] Audio: Interview audio is clear and audible.<br>[ ] SEO: Optimized with unique title, description, and tags.<br>[ ] Quality: Uploaded in at least 720p.<br>[ ] Thumbnail: A custom thumbnail is uploaded.<br>[ ] Deduction of category marks awarded, if video uploaded is not relevant to treatment.<br>Video URL: www.youtube.com/ | /10 |
| **Completed Short Film** (1-15 minutes) | Final film (1-15m) with captions and end screen uploaded. | [ ] Files must be uploaded in standard formats such as .mp4, .mkv, .mov, or .mpeg.<br>[ ] Codec: MJPEG H264.<br>[ ] Resolution: Minimum resolution:720x400px/ Maximum resolution:1920×1080 (HD).<br>[ ] File Size: The film file should generally not exceed 8 GB.<br>[ ] Audio/Video Code: Multiplexed files (audio, video, subtitles in a single file) preferred.<br>[ ] Progressive (deinterlaced) footage is recommended.<br>[ ] Audio: 48kHz sound PCM (only uncompressed) MP3 AAC (if possible > 160 kBit/s)<br>[ ] Subtitles: The subtitles have to be integrated (burned in) into the image.<br>[ ] Duration: Entries must be at least 60 seconds ≥ x ≥ 15 minutes.<br>[ ] No watermarks or social handle text on screen<br>[ ] Deduction of category marks awarded, if video uploaded is not relevant to treatment.<br>Video URL: www.youtube.com/ | /10 |
| Total | | | /50 |

Exam-Only [ ]

| Signature and Stamp Of Examiner: | Signature and Stamp Of Examiner: | Signature and Stamp Of Examiner: | Signature and Stamp Of Examiner: | Signature and Stamp Of Examiner: |
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| Section | Marks (Awarded) | Marks (Maxium) | Percentage Score = (Awarded ÷ Max) × 100 | Weight (20%) | Final Grade = (Percentage × 0.20) |
|---|---|---|---|---|---|
| 1 - Pre-production | | 100 | | 20% | |
| 2 - Production | | 25 | | 20% | |
| 3 - Post-Production | | 50 | | 20% | |
| 4 - Marketing | | 25 | | 20% | |
| 5 - Distribution | | 50 | | 20% | |
| Totals | | 250 | | 100% | Final Grade |

Please note, to use this:

1. Plug in the marks awarded.
2. Divide by the “maximum marks” to get the percentage.
3. Multiply by 0.20 (since each section = 20%).
4. Add all five contributions to get the final grade (out of 100).

GRADING SCHEME

| Grade | % Equivalent | Level of Pass |
|---|---|---|
| A | 90 – 100 | Honours |
| A- | 80 – 89 | Honours |
| B+ | 75 – 79 | Credits |
| B | 70 – 74 | Credits |
| B- | 66– 69 | Credits |
| C+ | 60 – 65 | Pass |
| C | 55 – 59 | Pass |
| C- | 50 – 54 | Acceptable Pass |
| D | 45 – 49 | Fail - Supplemental |
| F | 44 – 0 | Fail |

| Candidate: | TRN: 000-000-000 | Name: | Signature: | DD/MM/Year |
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| Candidate: | TRN: 000-000-000 | Name: | Signature: | DD/MM/Year |
| Candidate: | TRN: 000-000-000 | Name: | Signature: | DD/MM/Year |

| Category | Company | Model Name | Links (Demonstration Spaces) |
|---|---|---|---|
| text | *Deepseek-AI* | deepseek-R1 | https://chat.deepseek.com |
| imagery | *Stability-AI* | Stable-Diffusion | https://github.com/Acly/krita-ai-diffusion |
| image-edit | *Alibaba* | Z-Image, Z-Image-Edit | https://chat.qwen.ai/ |
| audio<br>Expressive Voiceover<br>Sound Effects<br>Music<br>Subtitles<br>upscaler | *Alibaba*<br>*Resemble-AI* | Qwen3-VD/tts<br>chatterbox-VC/tts | https://huggingface.co/spaces/Qwen/Qwen3-TTS<br>https://huggingface.co/spaces/ResembleAI/Chatterbox |
| | *Stability-AI*<br>*Sony* | Stable-Audio-Open-v1.0<br>MMAudio | <DemontrationSpace><br>https://huggingface.co/spaces/hkchengrex/MMAudio |
| | *ACE-Studio*<br><company><br>*Spotify* | ACE-Step-v1.5[ICL]<br>UVR-v5<br>Basic-Pitch | https://huggingface.co/spaces/ACE-Step/Ace-Step-v1.5<br>https://github.com/Anjok07/ultimatevocalremovergui<br>https://basicpitch.spotify.com/ |
| | <company> | lavaSR | https://huggingface.co/spaces/YatharthS/LavaSR |
| | *open-AI* | Whisper-v3 | https://huggingface.co/spaces/openai/whisper |
| mesh | *VAST-AI-Research* | Tripo-SR <Tier-01 (256^3)><br>Tripo-SG <Tier-02 (512^3)><br>Tripo-SF <Tier-03 (1024^3)> | https://huggingface.co/spaces/stabilityai/TripoSR<br>https://huggingface.co/spaces/VAST-AI/TripoSG<br><DemontrationSpace> |
| | *Microsoft*<br>*Tencent* | Trellis-v2 <wildcard (1536^3)><br>UltraShape-v1.0 <refiner> | https://huggingface.co/spaces/microsoft/TRELLIS.2<br><DemontrationSpace> |
| movement | *FreeMoCap* | FreeMoCap<br>Deadface | https://github.com/freemocap/freemocap<br>https://github.com/Qaanaaq/DeadFace |
| video | *Lightricks* | LTX-2 | https://ltx.studio/ |
| re-lighting<br>panorama | *NVIDIA*<br>*Insta360* | MVInverse / c-t-d-r<br>DiT360 | https://huggingface.co/spaces/maddog241/mvinverse-demo<br>https://huggingface.co/spaces/Insta360-Research/DiT360 |

| Free-And-Open-Source Generative Artificial Intelligence Models (Software User Documentation) | | |
|---|---|---|
| **Model Name** | **License** | **Official Github Repository** |
| deepseek-R1 | MIT-License | https://github.com/deepseek-ai/DeepSeek-R1 |
| Stable-Diffusion-1.5 | MIT-License | https://github.com/Acly/krita-ai-diffusion |
| Z-Image, Z-Image-Edit | Apache-2.0-License | https://github.com/Tongyi-MAI/Z-Image |
| Qwen3-VD/tts<br>chatterbox-VC/tts | Apache-2.0-License<br>MIT-License | https://github.com/QwenLM/Qwen3-TTS<br>https://github.com/resemble-ai/chatterbox |
| Stable-Audio-Open-1.0<br>MMAudio | Stability-AI-Community-License<br>MIT-License | https://github.com/Stability-AI/stable-audio-tools<br>https://github.com/hkchengrex/MMAudio |
| ACE-Step-v1.5[ICL]<br>UVR-v5<br>Basic-Pitch | MIT-License<br>MIT-License<br>Apache-2.0-License | https://github.com/ace-step/ACE-Step-1.5<br>https://github.com/Anjok07/ultimatevocalremovergui<br>https://github.com/spotify/basic-pitch |
| lavaSR | Apache-2.0-License | https://github.com/ysharma3501/LavaSR |
| Whisper-v3 | MIT-License | https://github.com/openai/whisper |
| Tripo-SR <Tier-01 (256^3)><br>Tripo-SG <Tier-02 (512^3)><br>Tripo-SF <Tier-03 (1024^3)> | MIT-License | https://github.com/VAST-AI-Research/TripoSR<br>https://github.com/VAST-AI-Research/TripoSG<br>https://github.com/VAST-AI-Research/TripoSF |
| Trellis-v2.0 <(1536^3)><br>UltraShape-v1.0 <refiner> | MIT-License<br>Tencent-Community-License | https://github.com/microsoft/TRELLIS.2<br>https://github.com/PKU-YuanGroup/UltraShape-1.0 |
| (Mediapipe)(MMPose)(oCV)<br>[FreeMoCap] | Apache-2.0-License | https://github.com/google-ai-edge/mediapipe<br>https://github.com/open-mmlab/mmpose<br>https://github.com/opencv/opencv |
| LTX-Video-2 | LTX2-Community-License | https://github.com/Lightricks/LTX-2 [t2v, i2v, i2vWa, a2v, v2v] |
| MVInverse / c-t-d-r<br>DiT360 | Apache-2.0-License / NC<br>MIT-License | https://github.com/nv-tlabs/cosmos1-diffusion-renderer<br>https://github.com/Insta360-Research-Team/DiT360 |

| | | | |
|---|---|---|---|
| code-agent | *OpenCode* | MIT License | https://github.com/anomalyco/opencode/ |

*Registered candidates for the course *"Immersive-Digital-Media-Production"* are allowed to inference, either *online* or *locally*, the *free and open-source* a.i. models, of which permit *commercial and research-use*.

| Proprietary - Artificial Intelligence Online Tools (November 2025) | | | |
|---|---|---|---|
| **Category** | **Company / Organization** | **Services** | **Official-Website-Link** |
| text | *Anthropic AI* | -text-generation | https://www.anthropic.com/ |
| Imagery | *Midjourney AI* | -text-to-image<br>-image-to-image<br>-image-edit | https://www.midjourney.com/ |
| Audio (48 kHz) | *Elevenlabs AI*<br>*Suno AI* | -Expressive VoiceOver (VC/tts/csm)<br>-Sound Effects<br>-Music<br>-Subtitles | https://elevenlabs.io/<br>https://suno.com/home |
| mesh (1536^3) | *VAST AI*<br>*World Labs AI* | -Mesh-Generation<br>-Auto-Remesh<br>-Texture-Generation (4k)<br>-Mesh-to-Texture<br>-Mesh-Segmentation<br>-Auto-Rigging | https://www.tripo3d.ai/<br>https://app.modddif.com/<br>https://www.worldlabs.ai/ |
| movement | *Rekoko (Vision)* | -Facial-Motion-Capture<br>-Body-Motion-Capture | https://www.rokoko.com/ |
| video (4k) | *Runway AI*<br>*LumaLab AI*<br>*Higgsfield AI* | -text-to-video-Generation<br>-video-to-video-Generation<br>-Character-Replacement | https://runwayml.com/<br>https://lumalabs.ai/<br>https://higgsfield.ai/ |
| re-lighting (4k) | *Beeble AI* | -Green-Screen-Removal<br>-PBR-Map-Estimation | https://www.switchlight.beeble.ai/ |
| code-agent | *Meta* | agentic-coding | https://manus.im/app |

*Candidates registered for the course or the *"exam-only"* are allowed to inference either the *free and open-source* or *closed-source* a.i. models.

*Monthly subscription fees for each service provider range from $25.00 USD to $100.00 USD, on average. These subscriptions grant comprehensive access to all required functionalities and media categories—**text, imagery, audio, mesh, movement, video, relighting**—necessary to complete the course, associated projects, or the exam-only track.

*For planning purposes, candidates should note that the instructional period spans 15 weeks (approximately 3.5 months) and requires access to services from 10 ten distinct providers. Accordingly, individuals pursuing the course or the *"exam-only"* pathway are advised to allocate a total budget (**for 3.5 months**) of **no less than $875.00 USD** and up to $3,500.00 USD, depending on provider selection and subscription tier, to ensure continuous access to the proprietary, closed-source AI tools referenced above.

*In addition to software subscriptions, candidates must also allocate approximately **$2,000.00 USD for essential hardware**. This includes a laptop ($1,200.00), tablet ($300.00), stereo set ($250.00), mouse ($100.00), and e-pencil ($100). These items are necessary to support the full range of course activities and media interactions.

*Lastly, **per candidate**, to enrol in this course or sit the exam, it will cost **$375.00 USD** (fee subject to change).

*$1.00USD = $160.00JMD, as of December-13-2025.

*Blender3D. https://www.blender.org/

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## Plugins *(Compatible with "Blender-v5.0.0")*

| | |
|---|---|
| **StoryLiner** (Animatics) *(GPL-3.0-License)*<br>https://superhivemarket.com/products/storyliner | **collection-opacity-adjuster** *(GPL-3.0-License)*<br>https://github.com/israelandrewbrown/collection-opacity-adjuster |
| **AutoCam** *(GPL-3.0-License)*<br>https://renderrides.gumroad.com/l/autocam | **Camera-Shakify** *(GPL-3.0-License)*<br>https://github.com/ra100/camera_shakify |

| | |
|---|---|
| **Sculpt-Layers** (CC-BY-4.0)<br>https://superhivemarket.com/products/sculpt-layers | **UV-Flow** (UV-Unwrapper) *(GPL-2.0-License)*<br>https://superhivemarket.com/products/uv-flow |
| **QRemeshify** (Quad-Remesher) *(GPL-3.0-License)*<br>https://github.com/ksami/QRemeshify | **Retopoflow** (Retopology) *(GPL-3.0-License)*<br>https://github.com/CGCookie/retopoflow |

| | |
|---|---|
| **Ucupaint** (Textures) *(GPL-3.0-License)*<br>https://github.com/ucupumar/ucupaint | **Quick Edit** (Blender-Krita_Bridge) *(GPL-3.0-License)*<br>[natively-built-into-Blender] |

| | |
|---|---|
| **RotoForge-AI** *(GPL-3.0-License)*<br>https://github.com/MagnumVD/RotoForge-AI | **3D-Camera-Tracker** (≤-v4) *(GPL-3.0-License)*<br>https://superhivemarket.com/products/camera-tracker |
| **3D-Gaussian-Splatting**<br>https://github.com/TimChen1383/EasyEnv | **HDRI-cube-Converter** *(GPL-3.0-License)*<br>https://github.com/PlasteredCrab/BlenderCubemapConverter |
| **Switch.Light.Beeble.AI**<br>https://beeble.ai/resources/downloads | **HDRI-dome-Projector** *(GPL-3.0-License)*<br>https://superhivemarket.com/products/hdri-dome-projection |
| **zForm** (image-to-3dmesh) *(GPL-3.0-License)*<br>https://superhivemarket.com/products/zform | **Depth Map Batch** (image-to-depthmap) *(GPL-3.0-License)*<br>https://superhivemarket.com/products/depth-map-batch-for-images |

| | |
|---|---|
| **Rigify** *(GPL-3.0-License)*<br>[natively-built-into-Blender] | **RigGNS** (Mixamo-Alternative) (Rigify) *(GPL-3.0-License)*<br>https://22722studios.gumroad.com/l/avmsyt |
| **Easy Pivot** *(GPL-3.0-License)*<br>https://superhivemarket.com/products/easypivot | **Transport-Rig** *(GPL-3.0-License)*<br>https://blenderigmaster.gumroad.com/l/vrf_plus |
| **Easy IK** *(GPL-3.0_License)*<br>https://superhivemarket.com/products/quick-ik | **Easy Skinning** *(GPL-3.0-License)*<br>https://superhivemarket.com/products/voxel-heat-diffuse-skinning |
| **Easy Weights** *(GPL-3.0_License)*<br>https://extensions.blender.org/add-ons/easyweight/ | **Easy Bone-Widget** *(GPL-3.0-License)*<br>https://github.com/waylow/boneWidget |
| **Easy Set-Driven-Key** *(GPL-3.0_License)*<br>https://github.com/riouxr/Set-Driven-Key | **Easy Drivers** *(GPL-3.0_License)*<br>https://extensions.blender.org/add-ons/easy-driver/ |

| | |
|---|---|
| **FreeMoCap-v2.0** *(AGPL-3.0-License)*<br>https://github.com/freemocap/freemocap | **Deadface-v1.0** *(MIT Licence)*<br>https://github.com/Qaanaaq/DeadFace |
| **BlendArMocap** (FreeMoCapRig to "Rigify") *(GPL-3.0)*<br>https://github.com/cgtinker/BlendArMocap | **Faceit** *(GPL-3.0-License)*<br>https://superhivemarket.com/products/faceit |

**Face/Body_MotionCapturePerformance** *(GPL-3.0-License)*
https://superhivemarket.com/products/blenquick-mocap-pro

| | |
|---|---|
| **X-PosePicker/GPL-Picker** (R-F ) *(GPL-3.0-License)*<br>https://superhivemarket.com/products/x-pose-picker | **Bone-Selector** *(GPL-3.0-License)*<br>https://phihung250693.gumroad.com/l/iyutsk |
| **Animation-Layers** *(GPL-3.0-License)*<br>https://superhivemarket.com/products/animation-layers | **F-Curve-Wizard** *(GPL-3.0-License)*<br>https://superhivemarket.com/products/f-curve-wizrd |
| **RigUI** *(GPL-3.0-License)*<br>https://superhivemarket.com/products/rig-ui | **Dynamic-Parent** *(GPL-3.0-License)*<br>https://github.com/romanvolodin/dynamic_parent |
| **ReTime** *(GPL-3.0-License)*<br>https://superhivemarket.com/products/retime | **DJV** (video-FrameNumber)(*BSD-3-Clause-Licence*)<br>https://github.com/darbyjohnston/DJV |
| **Onion-Skin-Tools** *(GPL-3.0-License)*<br>https://superhivemarket.com/products/onion-skin-tools | **Playblast** (preview animation) *(GPL-3.0-License)*<br>https://github.com/RxLaboratory/DuBlast |

| | |
|---|---|
| **Lazy-composer-2-pro** *(GPL-3.0-License)*<br>https://superhivemarket.com/products/lazy-composer-2-pro | **Render-Statistics** *(GPL-3.0-License)*<br>https://superhivemarket.com/products/render-stats |

**VFX BreakdownMaker** *(GPL-3.0-License)*
https://superhivemarket.com/products/breakdown-maker

| **Useful Links *(Compatible with "Blender-v5.0" for FX)*** |
|---|
| **Freezing Effect Generator** (Frost) *(GPL-3.0-License)*<br>https://maroc777772.gumroad.com/l/Freezing-Effect-Generator |
| **Alt Tab Easy Fog** (Fog) *(GPL-3.0-License)*<br>https://superhivemarket.com/products/alt-tab-easy-fog |
| **Water Shader** (Water) *(GPL-3.0-License)*<br>https://chuckcg.gumroad.com/l/sxbcnw<br>https://superhivemarket.com/products/flipfluids<br>https://superhivemarket.com/products/stylized-water |
| **Dynamic Rain** (Rain) *(GPL-3.0-License)*<br>https://cgcool.gumroad.com/l/lxmii |
| **Particle-X** (Particles) *(GPL-3.0-License)*<br>https://superhivemarket.com/products/particles-x |
| **Electro** (Lighting) *(GPL-3.0-License)*<br>https://maroc777772.gumroad.com/l/yupnu |
| **Dust Particles** (Dust) (*Royalty-Free*)<br>https://superhivemarket.com/products/dust-particles |
| **Smoke Scatter** (Smoke) *(GPL-3.0-License)*<br>https://cgcool.gumroad.com/l/ybsfu |
| **Fire Scatter** (Fire) *(GPL-3.0-License)*<br>https://cgcool.gumroad.com/l/xrwyo |
| **Object Dropper** (Gravity) *(GPL-3.0-License)*<br>https://superhivemarket.com/products/physics-dropper<br>https://superhivemarket.com/products/auto-smear-frames |
| **Open Scatter** (Object Scatter) *(GPL-3.0-License)*<br>https://superhivemarket.com/products/openscatter |

| #Note, generative a.i. video models are capable of producing effects. |
|---|
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| Software Website (Github) | License |
|---|---|
| **7Zip** (File Archiver) https://github.com/ip7z/7zip | *(LGPL, BSD 3-clause* |
| **Aegisub** (Subtitle Editor) https://github.com/Aegisub-Editor | *MIT license* |
| **Audacity** (Audio Editor) https://github.com/audacity/audacity | *GPL-3.0 license* |
| **Balena Etcher** (Electronics) https://github.com/balena-io/etcher | *Apache-2.0 license* |
| **BeeRef** (Image Reference Projection) https://github.com/rbreu/beeref | *GPL-3.0 license* |
| **Bitcoin-Core** (Wallet/Node) https://bitcoin.org/en/bitcoin-core/ | *MIT license* |
| **Blender** (3D Visual Creativity Suite) https://github.com/blender/blender | *GPL-3.0 license* |
| **Comfy UI** (Image Generation) https://github.com/comfyanonymous/ComfyUI | *GPL-3.0 license* |
| **Docker** (Software Virtualization) https://github.com/docker/docker-install | *Apache-2.0 license* |
| **DJV** (FrameNumber) https://github.com/darbyjohnston/DJV | *BSD-3 Clause Licence* |
| **Electrum** (BTC Wallet) https://github.com/spesmilo/electrum | *MIT license* |
| **Deadface** (Motion Capture) https://github.com/Qaanaaq/DeadFace | *MIT license* |
| **Flameshot** (Reference Image Capture) https://github.com/flameshot-org/flameshot | *GPL-3.0 license* |
| **FreeCAD** (CAD Engineering) https://github.com/FreeCAD/FreeCAD | *LGPL license* |
| **FreeMoCap** (Motion Capture) https://github.com/freemocap/freemocap | *AGPL-3.0 license* |
| **Firefox** (Web Private Browser) [faster] https://github.com/mozilla/ | *MPL-2.0 license* |
| **GIMP** (Image Manipulation) https://github.com/GNOME/gimp | *GPL-3.0 license* |
| **Godot** (Game Design Engine) https://github.com/godotengine/godot | *MIT license* |
| **Folder-Structure** (Version Control) https://github.com/Vidhey012/Folder-Structure-Visualizer | *GPL-2.0-license* |
| **HandBrake** (Video Transcoder) https://github.com/HandBrake/HandBrake | *GPL-2.0 license* |
| **Meshroom** (panarama) https://github.com/alicevision/Meshroom | *Mozilla Public v-2.0* |
| **Inkscape** (Image Graphics [Vector]) https://github.com/inkscape/inkscape | *GPL-2.0 license* |
| **Kinovea** (SyncVideo) https://github.com/Kinovea/Kinovea | *GPL-2.0 license* |
| **Krita** (2D Visual Creativity Suite) https://github.com/KDE/krita | *GPL-3.0 license* |

| | |
|---|---|
| **LibreCAD** (Drafter Architecture) https://github.com/LibreCAD/LibreCAD | *GPL-2.0 license* |
| **LibreOffice** (Productivity Office Suite) https://github.com/libreoffice | *GPL-2.0 license* |
| **LMMS** (Music Design) https://github.com/LMMS/lmms | *GPL-2.0 license* |
| **Ollama** (Run [llm]) https://github.com/ollama/ollama | *MIT license* |
| **OpenCode** (Agentic-Code) https://github.com/anomalyco/opencode/ | *MIT license* |
| **OBS Studio** (Broadcasting) https://github.com/obsproject/obs-studio | *GPL-2.0 license* |
| **real-ESRGAN** (video-Upscaler-4k) https://github.com/xinntao/Real-ESRGAN | *BSD-3 Clause* |
| **Pinokio** (one-click install AI Models) https://github.com/pinokiocomputer/pinokio | *MIT license* |
| **Proton VPN** (Virtual Private Network) https://github.com/ProtonVPN/win-app | *GPL-3.0 license* |
| **PyCharm CE** (Python IDE ) https://github.com/phracek/pycharm-community-edition | *GPL-2.0 license* |
| **qBittorrent** (File Sharing) https://github.com/qbittorrent/qBittorrent | *GPL-2.0 license* |
| **QEMU** (Emulator) https://github.com/qemu/qemu | *GPL-2.0 license* |
| **Fstl** (File Data Viewer) https://github.com/fstl-app/fstl | *MIT license* |
| **Musescore** (Music Notation) https://github.com/musescore/MuseScore | *GPL-3.0 license* |
| **Natron** (2D Compositing)(VFX) https://github.com/NatronGitHub/Natron | *GPL-2.0 license* |
| **Neural Note** (audio-to-midi) https://github.com/DamRsn/NeuralNote | *Apache-2.0 license* |
| **Storyboarder** (storyboard/animatics) https://github.com/wonderunit/storyboarder | *Custom license* |
| **SumatraPDF** (PDF, EPUB,CRB Reader) https://github.com/sumatrapdfreader/sumatrapdf | *GPL-3.0 license* |
| **TOR Browser** (Private Browsing) [slow] https://github.com/TheTorProject/gettorbrowser | *unknown* |
| **Trelby** (Screenplay Software) https://github.com/trelby/trelby | *GPL-2.0 license* |
| **Ultimaker Cura** (3D Printing) https://github.com/Ultimaker/Cura | *LGPL 3.0 license* |
| **Ultimate Vocal Remover V5** (Split) https://github.com/Anjok07/ultimatevocalremovergui | *MIT license* |
| **VLC Media Player** (Media Player) https://github.com/videolan/vlc | *mixed* |
| **VS Code** (Code IDE) https://github.com/microsoft/vscode | *MIT license* |
| **WineHQ** (Productivity Office Suite) https://wiki.winehq.org/Download | *LGPL* |

| "The Ten Essential Roles On The New Pipeline" |
|---|
| **Producer**<br>A producer guides a film from its beginning to its completion. They have a hand in organizing and scheduling, budgeting and hiring, creative problem-solving and overseeing, and marketing and distributing. A producer may be a self-employed contractor, or subject to the authority of an employer such as a production company or studio. They are involved throughout all phases of production from inception to completion.<br><citation> |
| **Attorney-At-Law [Lawyer]**<br>A lawyer (also called attorney, counsel, or counselor) is a licensed professional who advises and represents others in legal matters.<br><citation> |
| **Accountant**<br>An accountant is a financial professional who reviews and analyses financial records and keeps track of a company's or individual's income, expenditures, and liabilities. An accountant may also work in project planning, cost analysis, auditing, and financial decision-making. Some specialize in tax preparation and tax planning. Accountants may work for large companies or external accounting firms. They must meet state-specific educational and testing requirements and are certified by national professional associations.<br><citation> |
| **Director**<br>This person is responsible for designing sets, overseeing construction workers and other artists, and playing a part in figuring out the overall aesthetic of a movie production.<br><citation>. |
| **Storyboard-Artist / Layout-Artist / Animatic-Artist**<br>This person creates animatics, which are sequences of images, shots, or sketches that are used to plan a video. Animatics are used in many fields, including animation, television commercials, and movie production. Animatics are a technique that comes after storyboarding, and they can help ensure that a project is on track and will be effective. They can be used to: see how the final product might look. Give a rough draft of how a particular idea will play out. Animatics are usually made by editing storyboard images together with dialogue, sound effects, and music.<br><citation> |
| **Technical Artist (Rigging and Programming)**<br>This person (Programmer) helps video game development teams create interactive, visually appealing games for consoles and apps. They use both artistic and coding skills to integrate artwork and animation into complex game systems and film.<br><citation>. |
| **Artificial Intelligence Operator** [Story] [Concept] [Audio] [Mesh] [Look] [Movement]<br>This (Developer) is a professional who designs, trains, and monitors AI systems. They work as a liaison between human operators and AI systems, ensuring that AI systems are integrated into existing workflows.<br><citation>. |
| **VFX Compositing Artist**<br>This is the last piece of the puzzle you need to make effects look realistic. It combines the work of animators, videographers, and special effects artists to create effects that blur lines.<br><citation>. |
| **Video Editor**<br>This person uses scenes, takes, and shots to create a cohesive story for the screen. Editors use continuity editing, cutaways, and transitions to evoke certain emotions from the viewer and properly execute an entertaining plot. Video editors for film cut a scene from different angles, which directs the viewer to certain details in a story.<br><citation>. |
| **Graphic Designer**<br>Graphic designers create visual concepts, using computer software or by hand, to communicate ideas that inspire, inform, and captivate consumers.<br><citation> |

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Budget

| Category | Item | Projected Cost (JMD) | Actual Budget (JMD) | Difference (JMD) |
|---|---|---|---|---|
| Land Acquisition | Land Purchase | 3,500,000.00 | | |
| Core Construction & Infrastructure | (20ft / 40ft) Shipping Container | 1,000,000.00 | | |
| Core Construction & Infrastructure | Pit | 35,000.00 | | |
| Core Construction & Infrastructure | Septic Tank | 35,000.00 | | |
| Core Construction & Infrastructure | Manhole | 35,000.00 | | |
| Core Construction & Infrastructure | Water Tank | 35,000.00 | | |
| Building Materials | Gravel, Marl, Cement, Sand | 500,000.00 | | |
| Plumbing & Fixtures | Toilet | 15,000.00 | | |
| Plumbing & Fixtures | Bath Fixtures | 15,000.00 | | |
| Plumbing & Fixtures | Pipes | 15,000.00 | | |
| Plumbing & Fixtures | Sink (metal) | 15,000.00 | | |
| Plumbing & Fixtures | Sink (plastic) | 15,000.00 | | |
| Utilities & Energy | Solar Generator | 250,000.00 | | |
| Utilities & Energy | Starlink/Data Plan | 5,500.00 | | |
| Appliances & Furniture | Gas Stove | 10,000.00 | | |
| Appliances & Furniture | Fridge | 30,000.00 | | |
| Appliances & Furniture | Microwave | 25,000.00 | | |
| Appliances & Furniture | Washing Machine | 35,000.00 | | |
| Appliances & Furniture | Bed | 50,000.00 | | |
| Appliances & Furniture | Table | 15,000.00 | | |
| Appliances & Furniture | Air conditioning unit | 160,000.00 | | |
| Appliances & Furniture | Dining set | 160,000.00 | | |
| Appliances & Furniture | Sofa | 75,000.00 | | |
| Technology & Electronics | Phone | 75,000.00 | | |
| Technology & Electronics | Graphics Tablet | 75,000.00 | | |
| Technology & Electronics | Laptop | 200,000.00 | | |
| Technology & Electronics | e-Mouse | 20,000.00 | | |
| Technology & Electronics | e-Pencil | 20,000.00 | | |
| Technology & Electronics | Stereo Set | 20,000.00 | | |
| Technology & Electronics | Solar Generator (additional) | 30,000.00 | | |
| Power Tools | Cordless Drill | 35,000.00 | | |
| Power Tools | Cordless Angle-grinder | 35,000.00 | | |
| Power Tools | Portable Welding-plant | 35,000.00 | | |
| Power Tools | Cordless Circle saw | 35,000.00 | | |
| Power Tools | Cordless Chainsaw | 35,000.00 | | |
| Workshop Tools | Hammer | 3,500.00 | | |
| Workshop Tools | Pipe-cutter | 3,500.00 | | |
| Workshop Tools | Level | 3,500.00 | | |
| Workshop Tools | Tape measure | 3,500.00 | | |
| Workshop Tools | Hacksaw | 3,500.00 | | |
| Workshop Tools | Saw | 3,500.00 | | |
| Workshop Tools | Wire-cutter | 3,500.00 | | |
| Workshop Tools | Adjustable Wrench | 3,500.00 | | |
| Workshop Tools | Tile-Cutter | 3,500.00 | | |
| Workshop Tools | Shovel (big) | 3,500.00 | | |
| Workshop Tools | Ladder | 3,500.00 | | |
| Workshop Tools | Wheel-Borrow | 3,500.00 | | |
| Workshop Tools | Cement bucket | 1,600.00 | | |
| Workshop Tools | Plastic bucket | 1,600.00 | | |
| Workshop Tools | Mallet | 1,600.00 | | |
| Painting Supplies | Paint roller & tray bundle | 4,800.00 | | |
| Painting Supplies | Paint Brushes (x3) | 4,800.00 | | |

Budget Estimate Summary

| Category | Projected Cost (JMD) | Actual Budget (JMD) | Difference (JMD) |
|---|---|---|---|
| Appliances & Furniture | 560,000.00 | | |
| Building Materials | 500,000.00 | | |
| Core Construction & Infrastructure | 1,140,000.00 | | |
| Land Acquisition | 3,500,000.00 | | |
| Painting Supplies | 9,600.00 | | |
| Plumbing & Fixtures | 75,000.00 | | |
| Power Tools | 175,000.00 | | |
| Technology & Electronics | 440,000.00 | | |
| Utilities & Energy | 255,000.00 | | |
| Workshop Tools | 46,800.00 | | |
| Total (JMD) | 6,701,900.00 | | |
| Total (USD) | $41,886.88 | | |

Exchange Rate Applied: 1 USD = 160 JMD

Figure 1: Table showing a budget for the studio.

*Labour cost not included. *Adhesive (weld-rods, nails, tin-set, paint, ect.) cost not included. *Also, gas-generator, solar-light, windows, and safety-gear are not included.

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