

COURSE SYLLABUS

3D Animation & Capstone (Designer Stream)

Total Sessions: 16

Credits: 2 (recommended)

Mode: Studio-based + Project-based Learning

COURSE DESCRIPTION

This course equips students with advanced competencies in **3D animation, visual storytelling, and media production pipelines**, culminating in a **capstone project aligned with multidisciplinary media industries**.

Students will develop technical skills (modeling, rigging, animation, rendering) and apply them into **13 media domains**, transforming ideas into **industry-ready intellectual property (IP)**.

LEARNING OUTCOMES (CLOs)

By the end of this course, students will be able to:

1. Create 3D assets (modeling, texturing, lighting, animation)
 2. Apply animation principles into narrative and interactive media
 3. Develop a capstone project aligned with industry sectors
 4. Integrate design thinking with multidisciplinary media production
 5. Present and pitch a final project as a global-ready IP
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SESSION BREAKDOWN

SESSION 1 – Introduction to 3D Animation & Industry Overview

Topics:

- Animation pipeline (pre-production → post-production)
- Industry landscape (film, game, OTT, advertising)

Activities:

- Lecture + discussion
- Case study (Pixar / Game cinematics)
- Student expectation mapping

Output: Reflection document

SESSION 2 – 3D Modeling Fundamentals

Topics:

- Polygon, NURBS, topology
- Asset creation basics

Activities:

- Hands-on modeling (simple object)
- Lab exercise

Output: Basic 3D object

SESSION 3 – Texturing & Material Design

Topics:

- UV mapping
- Materials & shaders

Activities:

- Texture creation
- Applying materials

Output: Textured 3D asset

SESSION 4 – Lighting & Rendering

Topics:

- Lighting setup (3-point lighting)
- Rendering engines

Activities:

- Scene lighting experiment
- Rendering output

Output: Rendered still image

SESSION 5 – Rigging & Character Setup

Topics:

- Skeleton & IK system
- Character rigging

Activities:

- Rigging basic character

Output: Rigged model

SESSION 6 – Animation Principles

Topics:

- 12 principles of animation
- Keyframe animation

Activities:

- Animation exercise (bounce, walk cycle)

Output: Short animation clip

SESSION 7 – Cinematic & Storytelling in 3D

Topics:

- Camera movement
- Storyboarding

Activities:

- Create animatic

Output: Animatic sequence

SESSION 8 – Visual Effects & Integration

Topics:

- Particles, physics simulation
- Compositing

Activities:

- VFX mini project

Output: VFX scene

CAPSTONE PHASE (SESSION 9–16)

Focus: **Pengembangan Proyek Media (Capstone)**
Semua 13 lingkup dibahas & diintegrasikan

SESSION 9 – Capstone Ideation & Media Scope Mapping

Topics:

- Introduction to 13 media domains
- Idea validation

Activities:

- Brainstorming project ideas
- Mapping ke 13 lingkup

Output: Capstone proposal draft

SESSION 10 – Visual Design & Animation Integration

Scope:

- Animasi-Desain Visual
- Komik

Activities:

- Visual style development
- Character & environment design

Output: Visual concept board

SESSION 11 – Digital Media & Communication

Scope:

- Periklanan Digital
- Jurnalisme Digital

Activities:

- Campaign storytelling
- Motion graphics concept

Output: Digital storytelling prototype

SESSION 12 – Interactive & Game-Based Media

Scope:

- Esports
- Pengembangan Game

Activities:

- Game asset design
- Interactive animation

Output: Game-ready asset

SESSION 13 – Lifestyle & Product-Based Media

Scope:

- Fashion & Lifestyle
- Pengembangan Mainan

Activities:

- Product visualization
- Toy prototyping concept

Output: Product visualization

SESSION 14 – Human-Centered & Technology Media

Scope:

- Interaksi Komputer dan Manusia (HCI)
- OTT dan Inteligensi Media

Activities:

- UX animation prototype
- Media analytics integration

Output: Interactive prototype

SESSION 15 – IP Development & Cross-Media Conversion

Scope:

- IP dan Konversi Media
- Film dan Fotografi
- Musik dan Audio

Activities:

- IP expansion strategy
- Audio-visual integration

Output: IP development deck

SESSION 16 – Final Presentation & Exhibition

Topics:

- Pitching & showcasing

Activities:

- Final project presentation
- Panel feedback

Output:

- Final 3D Animation Project
- Pitch Deck
- Showreel