

SYLLABUS				
SIGNATURE COURSE				
Name of the College	Yeldo Mar Baselios College, Kothamangalam			
Faculty/ Discipline	Visual Development			
Programme	-			
Course Coordinator	Anandhu Sudheer			
Contributors	Sudeep D S, Vijayachandran Nair K P, Praveen M M			
Course Name	AI INTEGRATION IN ANIMATION AND VISUAL EFFECTS			
Type of Course	SEC			
Specialization title	This Signature Course does not have a specialization.			
Course Code	MG4SECVIDA00			
Course Level	200			
Course Summary	The course provides comprehensive knowledge on integrating Artificial Intelligence tools into the animation and visual effects pipeline. It covers AI-assisted pre-production (script to storyboard), production (asset generation, motion capture), and post-production (compositing, rotoscoping), aiming to enhance workflow efficiency and creative possibilities.			
Semester	4	Credits		3
Course Details				
	Learning Approach	Tutorial	Practical/Lab-P	Total Hours
	Credits	2	1	60
Pre-requisites, if any	Basic understanding of Animation Pipeline is required.			

Course Outcomes (CO)

Number of COs		4	
CO No.	Expected Course Outcome	Learning Domains *	PO No
1	Explain the evolution of AI in creative media, Generative AI fundamentals, and ethical considerations (copyright, bias) in the industry.	U	PO3
2	Apply AI-driven tools for pre-production tasks including automated scriptwriting, dynamic storyboarding, and concept art generation	A	PO1
3	Analyze the use of AI in production workflows such as markerless motion capture, neural rendering (NeRF), and AI-based texture synthesis.	An	PO2
4	Apply AI-driven tools and techniques in post-production workflows, including automated rotoscoping, video upscaling, frame interpolation, to enhance efficiency, visual quality, and creative output.	A	PO2

*Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)

CO-PO Articulation Matrix

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
CO 1	-	-	2	-	-	-	-	-	-	-
CO 2	2	-	-	-	-	-	-	-	-	-
CO 3	-	3	-	-	-	-	-	-	-	-
CO 4	-	3	-	-	-	-	-	-	-	-

'0' is No Correlation, '1' is Slight Correlation (Low level), '2' is Moderate Correlation (Medium level) and '3' is Substantial Correlation (High level).

Course Content

Content for Classroom transaction (Units)

Module	Units	Course Description	Hrs	CO No.
1	Introduction to AI in Creative Arts			
	1.1	Generative AI & Media: Definition, Evolution, History of AI in Media and Entertainment, Understanding Generative Adversarial Networks (GANs) and Diffusion Models.	5	["1"]
	1.2	Ethics & Law: Copyright issues in AI art, Bias in datasets, The role of human artists vs. AI, Future job landscape in VFX.	3	["1"]
	1.3	Tools Overview: Introduction to major platforms (Midjourney, Stable Diffusion, RunwayML, ChatGPT). Prompt Engineering basics for visual outputs.	4	["1"]
2	AI in Pre-Production			
	2.1	Script & Story: Using LLMs (Large Language Models) for script generation, character backstories, and dialogue refinement.	4	["2"]
	2.2	Visual Development: Rapid Concept Art generation, AI-assisted mood boarding, generating character sheets and environment reference images.	6	["2"]
	2.3	Storyboarding: AI tools for turning scripts into visual storyboards, shot visualization, and animatic asset preparation.	5	["2"]
3	AI Project Development			
	3.1	Production Assets: AI texturing tools, 3D model generation from 2D images, Neural Radiance Fields (NeRFs) for 3D scanning.	5	["3"]
	3.2	Animation & Mocap: Markerless AI motion capture (e.g., video-to-animation), AI lip-syncing, and facial performance capture.	5	["3"]
	3.3	Post-Production & VFX: AI Rotoscoping (Magic Mask), Object removal/In-painting, Super resolution (Upscaling), Frame Interpolation (Slow motion).	6	["4"]
	3.4	Pipeline Integration Project: Conceptualize and develop a short animation or visual effects production pipeline integrating AI tools across at least three stages of production (Pre-production, Production, and Post-production). Students shall identify appropriate AI applications, justify tool selection, demonstrate workflow integration, evaluate ethical considerations, and present the completed pipeline documentation and prototype.	17	["4"]

Teaching and Learning Approach	Classroom Procedure (Mode of transaction) Classroom Procedure (Mode of transaction) Classroom Training, Demonstration, Assignments
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Assessment Types	MODE OF ASSESSMENT Mode of Assessment: Practical
	A. Continuous Comprehensive Assessment (CCA) • Practical - 25 Marks Assignment, Presentation: AI Workflow & Concept Development- 5 Marks. AI-Assisted Pre-Production Exercise- 5 Marks. AI Workflow Implementation & Technical Execution- 10 Marks. Presentation and Viva Voce- 5 Marks. The Continuous Comprehensive Assessment (CCA) shall be conducted through a practical presentation, where students demonstrate the application of AI tools and techniques in animation and visual effects workflows. Evaluation shall be based on concept development, technical execution, creativity, presentation skills, and viva voce, in accordance with the prescribed assessment criteria.
	B. End Semester Evaluation (ESE) • Practical - 50 Marks Assessment Methods – Project (Ingenuity Assessment, Communication, Presentation): Project Planning and AI Workflow Design- 10 Marks. AI-Assisted Pre-Production- 10 Marks. AI-Based Production Workflow Implementation- 15 Marks. AI-Assisted Post Production- 10 Marks. Project Presentation and Viva Voce- 5 Marks. The End Semester Evaluation (ESE) shall be conducted as a practical examination based on an AI-integrated animation and visual effects project. Students shall be evaluated on project planning, workflow implementation, technical proficiency, quality of output, documentation, presentation, and viva voce as per the prescribed assessment criteria. Duration of Examination – N/A

References

- Foster, F. (2023). Generative art: A practical guide using Processing and AI. Manning Publications.
- Goodfellow, I., Bengio, Y., & Courville, A. (2016). Deep learning. MIT Press.
- Du, H. (2024). AI for animators: A guide to the future of production. CRC Press.

Suggested Readings

- Epstein, Z. (2023). The ethics of generative AI in creative industries. MIT Media Lab.
- Stability AI. (2024). Stable Diffusion documentation. <https://platform.stability.ai/docs>
- Runway. (2024). Runway documentation. <https://help.runwayml.com>

Affidavit • We, Yeldo Mar Baselios College, Kothamangalam and Anandhu Sudheer, retain the copyright of this syllabus and expressly prohibit its distribution in complete form to any institution outside our own. • We, Yeldo Mar Baselios College, Kothamangalam, agree to appoint a new course coordinator for the proposed AI INTEGRATION IN ANIMATION AND VISUAL EFFECTS in the event of the unavailability of the currently nominated coordinator. This appointment will ensure the continued coordination of course delivery, assessments, and all related academic responsibilities necessary for the successful implementation of the signature course, for as long as the college offers this programme. • We, Yeldo Mar Baselios College, Kothamangalam and Anandhu Sudheer, declare that no part of this signature course submitted here for approval has been taken from the course content developed by, or from any of the course titles prepared by, the BoS/expert committee in the same discipline under our University.



MGU-UGP (HONOURS)

Syllabus

Annexure

Course Name: AI Integration in Animation and Visual Effects

Course Code: MG4SECVIDA00

MODE OF ASSESSMENT

CO-based Evaluation Parameters

A. Continuous Comprehensive Assessment (CCA) - 25 Marks

The Continuous Comprehensive Assessment (CCA) shall be conducted through a practical presentation, where students demonstrate the application of AI tools and techniques in animation and visual effects workflows. Evaluation shall be based on concept development, technical execution, creativity, presentation skills, and viva voce.

Mapped CO	CCA Assessment Criteria & Description	Marks
CO1	Concept Development and AI Workflow Planning: Evaluation of the student's understanding of AI fundamentals, ability to conceptualize a project, plan an AI-assisted workflow, select appropriate AI tools, and consider ethical and legal aspects in creative media.	5
CO2	AI-Assisted Pre-Production: Assessment of the effective application of AI tools for script generation, concept art, mood boards, character design, storyboarding, and other pre-production activities.	5
CO3	Technical Execution and AI Workflow Integration: Evaluation of the student's proficiency in using AI tools for production tasks, workflow integration, prompt engineering, technical accuracy, and quality of generated assets and outputs.	10
CO4	Presentation, Communication and Viva Voce: Assessment of creativity, project presentation, communication skills, demonstration of AI-assisted workflows, and the ability to justify technical decisions and respond to questions.	5
	Total	25

B. End Semester Evaluation (ESE) - 50 Marks

Practical Examination

The End Semester Evaluation (ESE) shall be conducted as a practical examination assessing students' ability to integrate AI tools and techniques across the animation and visual effects pipeline. The evaluation will cover concept development and ethical considerations, AI assisted pre-production, AI based production workflow, and AI integrated post-production, along with project presentation, documentation, and viva voce.

Mapped CO	ESE Assessment Criteria & Description	Marks
CO1	Concept, Planning and Ethical Considerations: Evaluation of the project concept, understanding of AI fundamentals, workflow planning, appropriate selection of AI tools, and consideration of ethical and legal aspects such as copyright and responsible AI usage.	10
CO2	AI-Assisted Pre-Production: Assessment of the effective use of AI tools for script development, concept art generation, mood boards, character design, storyboarding, and overall pre-production planning.	10
CO3	AI-Based Production Workflow: Evaluation of the integration of AI technologies in production processes, including asset creation, texturing, 3D model generation, motion capture, neural rendering, and technical implementation.	15
CO4	AI-Integrated Post-Production, Project Presentation and Viva Voce: Assessment of AI-assisted post-production techniques such as rotoscoping, object removal, video upscaling, frame interpolation, overall project quality, presentation skills, documentation, and ability to justify technical decisions during viva voce.	15
	Total	50