Specialisation in Animation

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Specialisation in Animation

The Animation specialisation combines artistic practice, technical innovation, and critical inquiry to prepare students for contemporary animation industries and research-based creative practice. It develops advanced competencies in character performance, procedural animation systems, simulation-based visual effects, and pipeline-oriented production workflows. The curriculum integrates both 2D and 3D animation practices while engaging critically with animation theory, global industry trends, and emerging technologies including AI-assisted animation, real-time engines, and interactive media. Students progress from creative exploration and technical systems development toward a research-informed capstone animation project. Pathways allow specialisation in 2D animation, 3D animation, or hybrid practice, and course assignments and final project options support both 2D and 3D outcomes.

SEMESTER VII - Animation

Systems, Theory & Research Orientation

Sem. VII	Cultural Studies 1: Elementary Aspects of Culture, Society and Media			C4MM23071T
	Major (Core)	Theory	Marks: 100	**Credits 4**

Course Objective

This course critically examines foundational cultural studies frameworks to analyse how media systems construct identity, power relations, and ideological formations within contemporary socio-cultural contexts, with particular attention to visual media representation across animation, design, and film.

Course Content

Topics	No. of Classes	CO Mapping	Cognitive Level
Meaning of culture, culture and society	8	CO1, CO5	K1, K2
Media as cultural institution, representation	8	CO1, CO3	K1, K2
Signs, symbols, identity, stereotypes	8	CO2, CO3	K2, K3
Indian culture, globalisation, media flows	8	CO4, CO5	K3, K4
Review, critique, cultural discussions	8	All COs	K6

Course Outcomes (COs):

CO1: Critically interrogate foundational concepts of culture, society, and media as interconnected systems shaping ideological formations.

CO2: Analyse semiotic processes through which media constructs meaning, identity, and stereotypes in visual narratives.

CO3: Evaluate representational strategies in media texts, identifying mechanisms of power and cultural hegemony.

CO4: Synthesize Indian cultural contexts with globalization dynamics to assess media flows and hybridity.

CO5: Apply cultural theory frameworks to contemporary animation and multimedia case studies.

CO6: Produce theoretically informed critiques and multimodal responses to cultural issues in media practice.

Learning Outcomes (LOs):

- Understand basic relation between culture, society, and media.

- Read simple signs and symbols in visual media.
- Identify stereotypes and unfair representation.
- Explain how media shapes identity and culture.
- Relate media examples to Indian and global contexts.
- Write short reflections on cultural issues in media.

Evaluation

- CIA: 20 marks
- CA: 30 marks (Multi-media project)
- Semester Exam (Written): 50 marks
- TOTAL: 100 marks

Paper Structure for Semester Exam (50 marks):

- Section A: Short Answer - any 2 of 3 questions (2 × 5 = 10 marks)
- Section B: Medium Answer - any 2 of 3 questions (2 × 10 = 20 marks)
- Section C: Long Answer - any 1 of 2 questions (1 × 30 = 30 marks)

Text Books

1. Hall, S. (Ed.). (1997). *Representation: Cultural Representations and Signifying Practices*. Sage.
2. Storey, J. (2018). *Cultural Theory and Popular Culture: An Introduction* (8th ed.). Routledge.
3. During, S. (Ed.). (2007). *The Cultural Studies Reader* (3rd ed.). Routledge.

Suggested Readings

- Williams, R. (1983). *Culture and Society: 1780-1950*. Columbia University Press.
- Foucault, M. (1980). *Power/Knowledge: Selected Interviews and Other Writings*. Pantheon Books.
- Gramsci, A. (1992). *Prison Notebooks*. International Publishers.
- hooks, b. (1992). *Black Looks: Race and Representation*. South End Press.
- Said, E. W. (1978). *Orientalism*. Pantheon Books.
- Bendazzi, G. (2016). *Animation: A World History* (Volumes I-III). CRC Press.
- Meggs, P. B., & Purvis, A. W. (2016). *Meggs' History of Graphic Design* (6th ed.). Wiley.
- Bordwell, D., & Thompson, K. (2016). *Film Art: An Introduction* (12th ed.). McGraw-Hill.
- Tomlinson, J. (1999). *Globalization and Culture*. Polity Press.
- Iwabuchi, K. (2002). *Recentering Globalization: Popular Culture and Japanese Transnationalism*. Duke University Press.

Web Resources

- MIT OpenCourseWare: Introduction to Media Studies
- Senses of Cinema: Film theory articles
- Design Observer: Essays on design and culture
- TED Talks: Cultural and media studies

Sem. VII	Advanced Character Acting & Choreography			C4AMM23072C
	Major (Core)	Composite	Marks: 100	**Credits 4**

Course Objective:
This course develops advanced character performance methodologies through critical analysis of embodied acting principles, enabling students to choreograph emotionally resonant, production-ready animation sequences that demonstrate sophisticated understanding of spatial dynamics, temporal rhythm, and character psychology across 2D/3D pipelines.

Course Structure

Topics	No. of Classes	CO Mapping	Cognitive Level
Body language, posture, weight, balance	8	CO1, CO2	K1, K2
Line of action, silhouette, expressive posing	8	CO1, CO2	K1, K2
Character blocking, staging, interaction	8	CO2, CO3	K2, K3
Timing, rhythm, gesture choreography	8	CO2, CO3	K2, K3
Acting reference from theatre, film, animation	8	CO3, CO5	K3, K4
Gesture drawing, pose planning, review	8	CO4, CO6	K4, K6

Final Assessment

Students produce a short animated acting sequence demonstrating:

- expressive body language
- staged character interaction
- choreographed performance timing

The sequence may be produced using 2D animation, 3D animation, or hybrid techniques.

Assessment Structure

CIA: **20 Marks +10 Marks**

CA (drawing studies, gesture exercises, acting analysis tasks): **20 Marks**

Final Character Performance Piece: **50 Marks**

Total: **100 Marks**

The final submission should demonstrate a **short animated character performance sequence** applying acting principles, expressive movement, and choreographed interaction. Students may produce the work using **2D animation, 3D animation, or hybrid techniques**.

Learning Outcomes (LOs)

- Critically dissect body mechanics and line of action for production-grade expressive posing.
- Orchestrate gesture, timing, and rhythm for emotionally authentic character dynamics.
- Evaluate multi-media references to optimize staging and behavioural fidelity.
- Fuse observational drawing into iterative pose-to-animation workflows.
- Adapt interdisciplinary acting paradigms to hybrid 2D/3D pipelines.
- Deliver critiqued performance sequences ready for portfolio/showreel integration.

Course Outcomes (COs)

CO1: Critically analyse body mechanics, line of action, and silhouette principles for expressive posing in animation.

CO2: Synthesize gesture choreography, timing, and rhythm to construct believable character interactions.

CO3: Evaluate live-action and animated performance references for staging, blocking, and emotional authenticity.

CO4: Integrate gesture drawing and observational studies into production-ready pose planning workflows.

CO5: Assess theatrical acting traditions' adaptation to 2D/3D animation pipelines for nuanced performance.

CO6: Produce and critique a polished character performance sequence demonstrating advanced acting synthesis.

Textbooks

1. Williams, R. *The Animator's Survival Kit.*
2. Hooks, E. *Acting for Animators.*
3. Bancroft, T. *Creating Characters with Personality.*
4. Mattesi, M. *Force: Dynamic Life Drawing for Animators.*
5. White, T. *The Animator's Sketchbook.*

Suggested Readings

- Roberts, S. *Character Animation in 3D.*
- Blair, P. *Cartoon Animation.*
- Thomas, F., & Johnston, O. *The Illusion of Life: Disney Animation.*
- Connors, A. *Gesture Drawing: A Story-Based Approach.*

Sem. VII	Procedural Animation & VFX			C4AMM23073P
	Major (Core)	Practical	Marks: 100	**Credits 4**

Course Objective:

This course equips students with advanced procedural animation and VFX methodologies, critically evaluating node-based systems, particle dynamics, and algorithmic motion generation for scalable production workflows and cinematic visual effects integration.

Course Structure

Topics	No. of Classes	CO Mapping	Cognitive Level
Principles of procedural animation, node workflows	8	CO1, CO2	K1, K2
Expressions, controls, generative motion	8	CO1, CO2	K2, K3
Particle emitters, forces, trails	8	CO2, CO3	K2, K3
Procedural deformation, textures, compositing	8	CO3, CO4	K3, K4
System optimisation, production workflows	8	CO4, CO5	K4, K5
Review, critique, final procedural setup	8	CO6, All COs	K6

Assessment Summary

Procedural animation exercises	– **30 Marks**
Generative motion systems project	– **25 Marks**
Particle-driven animation project	– **25 Marks**
Final procedural animation sequence	– **15 Marks**
Viva Voce	– **5 Marks**
Total:	**100 Marks**

Course Outcomes (COs)

CO1: Critically evaluate procedural animation architectures, node workflows, and expression-based controls.

CO2: Design generative motion systems incorporating forces, emitters, and rule-based deformation.

CO3: Synthesize particle dynamics and trails for integrated VFX sequences in production contexts.

CO4: Optimize procedural textures, compositing, and outputs for scalable animation pipelines.

CO5: Assess system performance, bottlenecks, and workflow efficiency in professional VFX environments.

CO6: Produce and document a complex procedural animation/VFX sequence with critique and iteration.

Learning Outcomes (LOs)

- Evaluate node workflows and expressions for algorithmic efficiency.
- Architect generative systems with particle/forces integration.
- Composite procedural effects into seamless VFX narratives.
- Refine deformation/compositing for pipeline scalability.
- Diagnose/optimize performance in render-intensive environments.
- Document iterative procedural sequences for team handoff.

Textbooks

1. Birn, J. *Digital Lighting and Rendering.*
2. Zwerman, S., & Okun, J. *The VES Handbook of Visual Effects.*
3. Lanier, L. *Professional Maya.*

Suggested Readings

- Sawicki, M. *Filming the Fantastic.*
- Akenine-Möller, T. *Real-Time Rendering.*
- Finance, C., & Zwerman, S. *The Visual Effects Producer.*

Sem. VII	**Interactive & Immersive Animation**			**C4AMM23074P**
	Major (Core)	Practical	Marks: 100	**Credits 4**

Course Objective:
This course examines real-time animation systems and interactive narrative architectures, enabling students to design responsive animation experiences across VR/AR/game environments through critical implementation of state machines, spatial computing principles, and user-centred interaction design.

Course Content:

Topics	No. of Classes	CO Mapping	Cognitive Level
Real-time animation, state machines, blending	8	CO1, CO2	K1, K2
Game engine tools, animation controllers	8	CO1, CO2	K2, K3
Character control, triggers, events	8	CO2, CO3	K2, K3
VR animation, spatial awareness, gestures	8	CO3, CO4	K3, K4
Layout, camera planning, navigation	8	CO4, CO5	K4, K5
Review, critique, prototype building	8	CO6, All COs	K6

Course Outcomes (COs)

CO1: Differentiate real-time vs. pre-rendered animation paradigms in interactive media ecosystems.

CO2: Implement game engine controllers, state machines, and blending for responsive animation.

CO3: Design event-driven behaviours, triggers, and logic for immersive character interactions.

CO4: Develop VR/AR animation setups prioritizing spatial awareness and gesture fidelity.

CO5: Integrate cinematographic layout, navigation, and camera principles into interactive environments.

CO6: Prototype, critique, and deliver a functional interactive animation experience with user testing.

Learning Outcomes (LOs)

- Understand real-time animation workflows.
- Use game engine tools for animation control.
- Create simple interactive movement and response.
- Design animation for VR and AR spaces.
- Apply layout and camera ideas to interactive scenes.
- Produce a small interactive animation project.

Evaluation:

- Continuous Assessment: 20 marks
- Interactive animation exercises: 30 marks
- Final interactive animation project: 50 marks
- Total: 100 marks

Textbooks:

1. Beane, A. (2012). *3D Animation Essentials*. Sybex.
2. Duggan, M. (2019). *Unity Animation Essentials*. Packt Publishing.
3. Fullerton, T. (2018). *Game Design Workshop* (4th ed.). CRC Press.

Suggested Readings:

- Rogers, S. (2014). *Level Up! The Guide to Great Video Game Design* (2nd ed.). Wiley.
- Jerald, J. (2015). *The VR Book: Human-Centered Design for Virtual Reality*. Morgan & Claypool.
- LaValle, S. (2016). *Virtual Reality*. Cambridge University Press.

Sem. VII	Experimental & Avant-Garde Animation			C4AMM23075P
	Minor	Practical	Marks: 100	**Credits 4**

Course Objective:
This course critically engages students with experimental animation histories and avant-garde methodologies, fostering innovative practice through non-linear temporality, abstract formalism, and material experimentation to produce conceptually rigorous animation artworks.

Course Content:

Topics	No. of Classes	CO Mapping	Cognitive Level
Experimental animation history, abstract forms	8	CO1, CO2	K1, K2
Direct animation, pixilation, object animation	8	CO1, CO2	K2, K3
Mixed media, digital experiments	8	CO2, CO3	K2, K3
Shape, colour, rhythm, visual music	8	CO3, CO4	K3, K4
Sound and image, non-linear expression	8	CO4, CO5	K4, K5
Personal work, review, critique	8	CO6, All COs	K6

Course Outcomes (COs)

CO1: Historically contextualize experimental and avant-garde animation forms and movements.

CO2: Experiment with non-traditional techniques like direct animation, pixilation, and mixed media.

CO3: Construct abstract, non-linear animations exploring form, rhythm, and visual music.

CO4: Integrate sound-image synchronization for expressive, non-narrative animation structures.

CO5: Critically reflect on artistic processes, conceptual choices, and innovation boundaries.

CO6: Produce and publicly present a conceptually rigorous experimental animation artwork.

Learning Outcomes (LOs)

- Understand experimental animation traditions.
- Try non-traditional animation techniques.
- Make abstract or non-linear animation.
- Use sound and image creatively.
- Reflect on artistic choices.
- Present a short experimental animation.

Evaluation:

- Continuous Assessment: 20 marks
- Experimental technique exercises: 30 marks
- Final experimental animation film: (minimum 2 minutes) 50 marks
- Total: 100 marks

Textbooks:

1. Furniss, M. (2016). *A New History of Animation*. Thames & Hudson.
2. Wells, P. (2002). *Animation: Genre and Authorship*. Wallflower Press.
3. Harris, M., & Taberham, P. (2019). *Experimental Animation: From Analogue to Digital*. Routledge.

Suggested Readings:

- Moritz, W. (2004). *Optical Poetry: The Life and Work of Oskar Fischinger*. Indiana University Press.
- Sitney, P. A. (2002). *Visionary Cinema: The American Avant-Garde 1943-2000* (3rd ed.). Oxford University Press.
- Dobson, N., & Pallant, C. (2018). *Norman McLaren: Between the Frames*. Bloomsbury Academic.

Sem. VII	Advanced Digital Sculpting & AI-Assisted Character Design			C4AMM23076P
	Minor	Practical	Marks: 100	**Credits 4**

Course Objective:
This course helps students create strong character designs by combining anatomy, digital sculpting, and careful use of AI tools. Students learn how to make human, creature, and fantasy characters ready for animation or production.

Course Content:

Topics	No. of Classes	CO Mapping	Cognitive Level
Human and creature anatomy, proportions	8	CO1, CO2	K1, K2
Shape, volume, surface, silhouette	8	CO1, CO2	K2, K3
Costume design, creatures, hybrids	8	CO2, CO3	K2, K3
Retopology, UV unwrapping, baking	8	CO3, CO4	K3, K4
AI-assisted texturing, concept variation	8	CO4, CO5	K4, K5
Review, critique, production-ready models	8	CO6, All COs	K6

Course Outcomes (COs)

CO1: Identify anatomy, shape, and form in character sculpture.

CO2: Convert concept ideas into 3D sculpted characters.

CO3: Prepare models for animation and production use.

CO4: Use AI tools for controlled design support.

CO5: Judge the readiness of a model for production.

CO6: Produce a finished character design sequence or model study.

Learning Outcomes (LOs)

- Sculpt characters with proper shape and form.
- Turn 2D ideas into 3D character models.
- Prepare models for animation use.

- Use AI tools for idea development and texturing.
- Check whether a model is production-ready.
- Think carefully about ethics in AI-assisted design.

Evaluation:

- Continuous Assessment: 20 marks
- Sculpting exercises: 30 marks
- Final character model (production-ready): 50 marks
- Total: 100 marks

Textbooks:

1. Spencer, S. (2017). *ZBrush Digital Sculpting Human Anatomy*. Sybex.
2. Patnode, J. (2015). *Character Modeling with Maya and ZBrush*. Focal Press.
3. Keller, E. (2016). *Introducing ZBrush 4*. Sybex.

Suggested Readings:

- Fabry, G., et al. (2013). *Anatomy for Fantasy Artists* (2nd ed.). Barron's Educational Series.
- Bridgman, G. (2017). *Bridgman's Complete Guide to Drawing from Life* (5th ed.). Sterling.
- Lord, P., & Sibley, B. (2013). *Creat Stop-Motion Characters*. Focal Press.

SEMESTER VIII - Animation

Research Development & Project Pre-Production

Sem. VIII	Cultural Studies 2: Cultural Subjectivity and Issues of Representation			C4MM23081T
	Major (Core)	Theory	Marks: 100	**Credits 4**

Course Objective

This course extends Cultural Studies 1 by examining how subjectivity, power, and representation are shaped through contemporary media systems, with particular emphasis on algorithms, Indian media policy, and visual culture across animation, design, and film.

Course Content

Topics	No. of Classes	CO Mapping	Cognitive Level
Postmodernism/Intersectionality/Identity	10	CO1, CO2	K3, K4
Ideology/Power (Althusser/Foucault)	8	CO2, CO3	K4
Algorithmic Representation/Bias	6	CO3	K5
Indian Policy/Censorship/OTT	6	CO4	K4, K5
Visual Culture in Animation	6	CO5	K5, K6
Multimodal Critique Project	4	All COs	K6

Practice Component: Multimodal Cultural Critique Project

Students create a short practice-based cultural analysis using their specialisation:

Animation students

- 1–2 minute animated critical essay or visual commentary

Design students

- Visual culture audit, design activism poster series, or interactive media critique

Film students

- Duration = **2–3 minutes** per student (or up to 5 minutes for a group project).
- They can **draw on rushes** from Documentary or the Capstone where appropriate.

Output 2 (compulsory):

A Multimodal Cultural Critique Project presented in a public classroom screening/exhibition.

Course Outcomes (COs):

CO1: Analyse postmodern and intersectional theories of subjectivity and identity in relation to media and culture.

CO2: Apply ideological and power-based critiques (e.g., Althusser, Foucault) to questions of media representation.

CO3: Evaluate the role of digital platforms and algorithms as cultural agents shaping visibility, bias, and exclusion.
CO4: Interpret Indian media laws, censorship frameworks, and policy debates in relation to creative practice and audience rights.
CO5: Critically assess visual culture across animation, design, and film for encoded nationalism, identity, and ideological messages.
CO6: Produce practice-based cultural critique projects that integrate theory, research, and creative expression in a medium aligned with the student's specialisation (animation, design, or film).

Learning Outcomes (LOs):

- Use intersectionality to examine how gender, caste, class, religion, and other axes of identity are represented in media texts.
- Apply concepts of ideology, discourse, and power to analyse selected visual and audiovisual examples.
- Identify and discuss forms of algorithmic bias, visibility, and "censorship by design" on digital platforms.
- Explain key elements of Indian media policy, including certification, OTT regulation, and intellectual property, and relate them to creative practice.
- Decode visual symbols, composition, and design strategies that communicate nationalism, identity, or political ideology in visual media.
- Create a short practice-based cultural critique project—such as an animated essay, design activism piece, or documentary/video essay—according to the student's specialisation, and present it with a brief analytical statement.

Assessment Structure (100 Marks)

A. CIA – 20 Marks
Weekly discussions, quizzes, reading reflections, short analytical tasks.
B. CA – 20 Marks (based off Unit 6)
Multimodal Cultural Critique Project with a brief explanatory statement
(Short film, mini-animation, design activism project, mixed-media essay)
C. Semester-End Written Exam – 50 Marks
Section A: Short answers (2 out of three, 5 marks each)
Section B: Medium answers (2 out of three, 10 marks each)
Section C: Long analytical essay (1 out of two, 20 marks)

Reading List

Core Texts

1. Hall, S. (Ed.). (1997). *Representation: Cultural Representations and Signifying Practices*. Sage.
2. Storey, J. (2018). *Cultural Theory and Popular Culture: An Introduction* (8th ed.). Routledge.
3. During, S. (Ed.). (2007). *The Cultural Studies Reader* (3rd ed.). Routledge.
4. Appadurai, Arjun, 1949. *Modernity at Large: Cultural Dimensions of Globalisation*. Minneapolis, MN :University of Minnesota Press, 1996.
5. Selected writings by Lawrence Liang, Nalin Mehta, Shohini Ghosh, among others.

Suggested Readings

- Williams, R. (1983). *Culture and Society: 1780-1950*. Columbia University Press.
- Foucault, M. (1980). *Power/Knowledge: Selected Interviews and Other Writings*. Pantheon Books.
- Gramsci, A. (1992). *Prison Notebooks*. International Publishers.
- hooks, b. (1992). *Black Looks: Race and Representation*. South End Press.
- Said, E. W. (1978). *Orientalism*. Pantheon Books.
- Bendazzi, G. (2016). *Animation: A World History* (Volumes I-III). CRC Press.
- Meggs, P. B., & Purvis, A. W. (2016). *Meggs' History of Graphic Design* (6th ed.). Wiley.
- Bordwell, D., & Thompson, K. (2016). *Film Art: An Introduction* (12th ed.). McGraw-Hill.
- Tomlinson, J. (1999). *Globalization and Culture*. Polity Press.
- Iwabuchi, K. (2002). *Recentering Globalization: Popular Culture and Japanese Transnationalism*. Duke University Press.
- Benjamin, Walter. 2008. *The Work of Art in the Age of Mechanical Reproduction*. Translated by J. A. Underwood. London: Penguin Books.
- Du Gay, Paul, Stuart Hall, Linda Janes, Hugh Mackay, and Keith Negus. *Doing Cultural Studies: The Story of the Sony Walkman*. London: Sage, 1997.

Web Resources

- MIT OpenCourseWare: Introduction to Media Studies
- Senses of Cinema: Film theory articles
- Design Observer: Essays on design and culture
- TED Talks: Cultural and media studies

Sem. VIII	Advanced Rigging & Pipeline Optimisation			C4AMM23082C
	Major (Core)	Composite	Marks: 100	**Credits 4**

Course Objective:
Develops advanced rigging expertise for robust characters, automation, and pipeline integration in collaborative animation production.

Course Content:

Topics	No. of Classes	CO Mapping	Cognitive Level
Advanced Rigging Techniques (IK/FK, facial, 2D/3D)	12	CO1	K3, K4
Deformation/Skinning (blend shapes, muscles)	10	CO2	K4
Tools/Automation (Python scripting, auto-rig)	8	CO3	K4, K5
Pipeline Integration (assets, version control)	10	CO4, CO5, CO6	K5, K6

Course Outcomes (COs)

CO1: Build complex skeletal/control systems for diverse characters.

CO2: Implement advanced deformation/skinning for production stability.

CO3: Deploy auto-rigging scripts/tools for efficiency.

CO4: Integrate rigs into asset pipelines with versioning.

CO5: Iterate rigs via animator feedback collaboration.

CO6: Document workflows for team maintainability.

Learning Outcomes (LOs)
After successful completion, students will be able to:

- Construct feature-quality rigs (biped/quad/facial).
- Apply corrective skinning for appealing poses.
- Develop Python tools for rig automation.
- Publish rigs with version control standards.
- Test/fix rigs in collaborative simulations.

- Create technical docs/demo scenes.

Evaluation:

- Continuous Assessment: 20 marks + 10 marks
- Rigging exercises and tools: 20 marks
- Final character rig (production-ready): 50 marks
- Total: 100 marks

Textbooks:

1. Palamar, T. (2016). *Mastering Autodesk Maya 2016*. Sybex.
2. O'Hailey, T. (2013). *Rig it Right! Maya Animation Rigging Concepts* (2nd ed.). Focal Press.
3. Luhta, T. (2016). *How to Cheat in Maya 2016*. Focal Press.

Suggested Readings:

- Beane, A. (2012). *3D Animation Essentials*. Sybex.
- Palamar, T. (2015). *Maya Python for Games and Film*. Morgan Kaufmann.
- McKinley, M. (2011). *Maya Studio Projects: Game Environments and Props*. Sybex.

Sem. VIII	Advanced 3D Dynamics & Procedural Systems			C4AMM23083P
	Major (Core)	Practical	Marks: 100	**Credits 4**

Course Objective:
Advances physics-based VFX (particles/fluids/cloth) for cinematic animation, focusing on integration, caching, and optimization.

Course Structure

Topics	No. of Classes	CO Mapping	Cognitive Level
Particle Dynamics/Secondary Effects	10	CO1	K3, K4
Fluid/Environmental Sims	10	CO2	K4
Cloth/Hair Deformables	8	CO3	K4, K5
Integrated FX/Pipeline Optimization	12	CO4, CO5, CO6	K5, K6

Assessment Summary

Particle dynamics project	– **20 Marks**
Fluid simulation project	– **20 Marks**
Cloth / deformable dynamics project	– **25 Marks**
Integrated FX simulation shot	– **30 Marks**
Viva Voce	– **5 Marks**
Total:	**100 Marks**

Course Outcomes (COs)

CO1: Configure advanced particles for secondary effects.
CO2: Design fluid/environmental simulations.
CO3: Implement cloth/hair/soft-body dynamics.
CO4: Integrate multi-systems for FX shots.
CO5: Optimize workflows (caching/constraints).
CO6: Produce professional VFX sequences.

Learning Outcomes (LOs)

- Layer particles/fluids/deformable cohesively.
- Tune sim parameters for realism/stability.
- Integrate sims into render/composite pipelines.

- Manage large-scale caching workflows.
- Troubleshoot instability/efficiency issues.
- Deliver showreel-ready FX shots.

Textbooks

1. Birn, J. *Digital Lighting and Rendering.*
2. Okun, J., & Zwerman, S. *The VES Handbook of Visual Effects.*
3. Lanier, L. *Professional Maya.*

Suggested Readings

- Sawicki, M. *Filming the Fantastic.*
- Akenine-Möller, T. *Real-Time Rendering.*
- Finance, C., & Zwerman, S. *The Visual Effects Producer.*

Sem. VIII	Advanced Character Performance & AI Workflows			C4AMM23084P
	Major (Core)	Practical	Marks: 100	**Credits 4**

Course Objective:
Advances dialogue-driven acting, lip-sync, and AI-assisted workflows for nuanced 2D/3D performances in production pipelines

Course Structure

Topics	No. of Classes	CO Mapping	Cognitive Level
Facial Performance/Micro-Expression	10	CO1	K3, K4
Dialogue Acting/Lip-Sync	10	CO2	K4
AI-Assisted Tools (inbetweening, rotoscope)	10	CO3, CO4	K4, K5
Synthetic Performance/Ethics	10	CO5, CO6	K5, K6

Final Assessment
Students produce a dialogue-based animated performance shot demonstrating:

- accurate lip-sync
- expressive facial animation
- nuanced emotional performance
- integration of AI-assisted tools within the workflow

The final output should be suitable for inclusion in a **professional animation showreel**.

Assessment Summary
Module 1 – Performance refinement exercises: **20 Marks**
Module 2 – Dialogue acting and lip-sync sequence: **20 Marks**
Module 3 – AI-assisted animation workflow study: **25 Marks**
Module 4 – Final character performance shot: **30 Marks**
Viva Voce (based on final submission): **5 Marks**
Total: 100 Marks

Course Outcomes (COs)

CO1: Design nuanced facial expressions and eye movement.
CO2: Animate dialogue with phoneme accuracy and emotion.
CO3: Integrate AI tools for lip-sync/inbetweening.
CO4: Evaluate AI limitations in animation workflows.
CO5: Assess ethics of synthetic media/motion capture.
CO6: Produce polished dialogue performance shots.

Learning Outcomes (LOs)

- Refine facial/body integration for emotion.
- Time lip-sync with acting beats/subtext.
- Deploy AI ethically in pipelines.
- Blend AI outputs with hand-keyed animation.
- Critique deepfake/synthetic actor implications.
- Deliver showreel-ready sequences.

Textbooks

1. Jones, A., & Oliff, J. *Thinking Animation: Bridging the Gap Between 2D and CG.*
2. Williams, R. *The Animator's Survival Kit.*
3. White, T. *Animation from Pencils to Pixels.*

Suggested Readings

- Goodfellow, I., Bengio, Y., & Courville, A. *Deep Learning.*
- Russell, S., & Norvig, P. *Artificial Intelligence: A Modern Approach.*
- Mitchell, T. *Machine Learning.*

Sem. VIII	Animation Theory, Criticism, & Emerging Trends			C4AMM23085T
	Major (Core)	Theory	Marks: 100	**Credits 4**

Course Objective:

This course develops advanced theoretical and critical engagement with animation as an autonomous moving-image medium, focusing on its aesthetics, narrative forms, and critical frameworks, while situating contemporary developments such as hybrid, real-time, and AI-assisted animation within broader industrial and cultural contexts.

Course Structure

Topics	No. of Classes	CO Mapping	Cognitive Level
Animation Foundations/Illusion	8	CO1	K3, K4
Animated Aesthetics/Form	8	CO2	K4
Critical Approaches/Genres	8	CO3	K4, K5
Contemporary Tech/Trends	16	CO4, CO5, CO6	K5, K6

Course Outcomes (COs)

CO1: Explain key theoretical concepts that distinguish animation from live-action cinema as a moving-image medium.

CO2: Analyse animated works using formal and aesthetic frameworks focused on movement, stylisation, and rhythm.

CO3: Apply critical approaches to genres, authorship, and national/cultural animation traditions.

CO4: Interpret animation within industrial and global production contexts, including festivals, studios, and platforms.

CO5: Assess contemporary developments such as hybrid 2D/3D, real-time engines, and AI-assisted workflows.

CO6: Produce research-based critical writing on selected animated films, bodies of work, or emerging trends.

Learning Outcomes (LOs)

- Distinguish animation’s aesthetic and ontological properties from those of live-action cinema.

- Conduct close formal analysis of animated sequences with attention to timing, spacing, design, and sound–image relations.
- Identify and compare stylistic approaches across different historical and cultural animation traditions.
- Discuss how theoretical concepts (e.g., medium specificity, performance, illusion) illuminate particular animated works.
- Write a 2,000–3,000-word essay applying one or more theoretical frameworks to a selected animation case study.
- Present a structured critical argument on animation theory or authorship in seminar form.

Evaluation:

- Continuous Assessment (participation, presentations): 20 marks
- Mid-term essay (2000 words): 30 marks
- Final research paper (3000 words): 50 marks
- Total: 100 marks

Textbooks:

1. Wells, P. (1998). *Understanding Animation*. Routledge.
2. Furniss, M. (2008). *Art in Motion: Animation Aesthetics*. John Libbey Publishing.
3. Bendazzi, G. (2016). *Animation: A World History* (Vol. III: Contemporary Times). CRC Press.

Suggested Readings:

- Buchan, S. (2013). *Pervasive Animation*. Routledge.
- Pallant, C. (2011). *Demystifying Disney*. Continuum.
- Telotte, J. P. (2010). *Animating Space: From Mickey to WALL-E*. University Press of Kentucky.
- Crafton, D. (2012). *Shadow of a Mouse: Performance, Belief, and World-Making in Animation*. University of California Press.

Sem. VIII	Research Methodology for Animation			C5AMM23091D
	Major (Core)	Theory	Marks: 0	**Credits 0**

Course Objective:
Introduces animation-specific research methods, research questions, methodologies, literature review, and thesis proposal development (PASS/FAIL, Sem VIII).

Note This course forms the first 0-credit, PASS/FAIL phase of the continuous paper C5AMM23091D, which is completed as the 12-credit Final Thesis in Semester IX.

Course Content:

Topics	No. of Weeks	CO Mapping	Cognitive Level
Research Questions/Theory	2	CO1	K3
Methodologies/Archives	2	CO2	K4
Literature Review	2	CO3	K4, K5
Thesis Proposal/Writing	4	CO4, CO5, CO6	K5, K6

Course Outcomes (COs)

CO1: Formulate researchable animation questions.

CO2: Select methods (textual, archival, technical).

CO3: Conduct literature reviews.

CO4: Apply theory frameworks.

CO5: Develop thesis proposals.

CO6: Ensure academic rigor/ethics.

Learning Outcomes:

- Identify animation research gaps.
- Justify methodologies.
- Synthesize scholarship.
- Build theoretical structures.
- Write proposals/bibliographies.
- Annotate 15-20 sources.

Evaluation (PASS/FAIL):

- Week 4: Methodology statement (500 words)
- Week 6: Annotated bibliography (15-20 sources)
- Week 10: Thesis proposal outline with bibliography

Core Resources:
Textbooks:

1. Eco, U. (2015). *How to Write a Thesis*. MIT Press.
2. Booth, W. C., et al. (2016). *The Craft of Research* (4th ed.). University of Chicago Press.
3. Bendazzi, G. (2016). *Animation: A World History* (Vol. III). CRC Press.

Key Journals:

Animation: An Interdisciplinary Journal, Screen, Journal of Film and Video, Animation Magazine Archives: Academy Collection, Society for Animation Studies, Annecy & Ottawa Festival Archives

SEMESTER IX - Animation

Research Development & Project Pre-Production

Sem. IX	Animation Studies: Contemporary Trends			C5AMM23091T
	Major (Core)	Theory	Marks: 100	**Credits 4**

Course Objective:
This course examines contemporary global animation ecosystems—industries, aesthetics, popular culture, and emerging technologies—so that students can critically situate recent works, platforms, and labour practices within broader historical, economic, and cultural trends.

Course Content:

Topics	No. of Classes	CO Mapping	Cognitive Level
Global Industries	10	CO1	K3, K4
Aesthetics & Techniques	10	CO2	K4
Pop Culture & Fandom	10	CO3	K4, K5
Emerging Tech & Future	10	CO4, CO5, CO6	K5, K6

Course Outcomes (COs)

CO1: Map major regions, studios, platforms, and production models shaping contemporary global animation industries.

CO2: Analyse stylistic and technical trends in recent animation, including hybrid, experimental, and cross-media forms.

CO3: Evaluate animation's roles in popular culture, fandoms, memes, and transmedia franchises.

CO4: Assess the impact of real-time engines, AI tools, VR/AR, and other emerging technologies on production workflows and aesthetics.

CO5: Critique sustainability, labour, and ethical issues in current animation practice, with attention to Indian and global contexts.

CO6: Produce a research-informed analysis of a specific contemporary trend, studio, platform, or animated property.

Learning Outcomes (LOs)

- Conduct case studies of recent animated films, series, games, or platforms that reflect current industrial and aesthetic trends.

- Discuss how fandoms, social media cultures, and merchandising shape the circulation and meaning of contemporary animation.
- Analyse specific uses of real-time engines, AI-assisted workflows, or virtual production tools in recent projects.
- Identify sustainability, labour, and equity issues affecting contemporary animation production, including in India.
- Write a 3,000-word report or critical paper on a selected contemporary animation trend, supported by appropriate industry and scholarly sources.
- Present findings in a seminar or conference-style format using visual and analytical materials.

Evaluation:

- Continuous Assessment: 20 marks + 10 marks
- Contemporary animation analysis presentation: 20 marks
- Final research paper on current trends: 50 marks
- Total: 100 marks

Textbooks:

1. Furniss, M. (2016). *A New History of Animation*. Thames & Hudson.
2. Bendazzi, G. (2016). *Animation: A World History* (Vol. III). CRC Press.
3. Beck, J. (Ed.). (2015). *Animation Art: From Pencil to Pixel*. Flame Tree Publishing.

Suggested Readings:

- Deja, A. (2015). *The Nine Old Men: Lessons, Techniques, and Inspiration from Disney's Great Animators*. CRC Press.
- Williams, C. (Ed.). (2013). *The Animation Studies Reader*. Bloomsbury Academic.
- Giesen, R. (2007). *Animation under the Swastika*. McFarland.
- Chong, A. (2019). *Digital Animation 1 & 2*. Bloomsbury Visual Arts.

Sem. IX	Animation Production Management & Industry Practice			C5AMM23092P
	Major (Core)	Practical	Marks: 100	Credits 4

Course Objective:
Prepares for animation careers via pipelines, budgeting, pitching, IP, and entrepreneurship.

Course Content:

Topics	No. of Classes	CO Mapping	Cognitive Level
Production Pipelines	10	CO1	K4
Business Models/Budgeting	10	CO2	K4, K5
Professional Practice/Pitching	10	CO3	K5
Entrepreneurship/Freelance	10	CO4, CO5, CO6	K5, K6

Course Outcomes (COs)

CO1: Manage pipelines/schedules/resources.

CO2: Develop budgets/financial strategies.

CO3: Create portfolios/pitches/contracts.

CO4: Explain IP/legal issues.

CO5: Design studio/freelance plans.

CO6: Reflect on career pathways.

Learning Outcomes (LOs)

- Draft short-film plans/budgets.
- Prepare pitch decks/bibles.
- Assemble industry portfolios/showreels.
- Outline IP/contract strategies.
- Build basic business plans.
- Articulate professional roadmaps.

Evaluation:

- Continuous Assessment: 20 marks
- Production plan and budget for short film: 30 marks
- Business plan or pitch deck: 50 marks
- Total: 100 marks

Textbooks:

1. Levy, D. (2010). *Your Career in Animation: How to Survive and Thrive*. Allworth Press.
2. Tumminello, W. (2005). *Exploring Storyboarding*. Thomson Delmar Learning.
3. Simon, M. (2007). *Producing Independent 2D Character Animation*. Focal Press.

Suggested Readings:

- Raugust, K. (2004). *The Animation Business Handbook*. St. Martin's Griffin.
- Priebe, K. A. (2010). *The Advanced Art of Stop-Motion Animation*. Delmar Cengage Learning.
- Beiman, N. (2010). *Prepare to Board! Creating Story and Characters for Animation*. Focal Press.

Sem. IX	**Final Thesis**			**C5AMM23091D**
	Major (Core)	Practical	Marks: 200	**Credits 12**

Course Objective:
This course culminates the MSc with a 10,000-word thesis and annotated bibliography (no film required), emphasizing original research in animation studies and the ability to construct a sustained, theory-informed scholarly argument.

Prerequisites: Successful completion (PASS) of the Sem VIII phase of C5AMM23091D – Research Methodology for Animation.

Course Structure:

Components	Scope	Criteria
Thesis	10,000 words, bibliography 30 sources	Research depth, analytical rigour, and contribution to animation studies.
Defense	Viva and presentation	Critical engagement with questions; clarity in explaining methods, findings, and implications.
Portfolio	Optional research supplements	Research supplements such as abstracts, conference paper, or visual aids – Professional documentation and dissemination-readiness.

Course Outcomes (COs)

CO1: Execute an approved research design to produce a 10,000-word thesis in animation studies.

CO2: Analyse primary and/or secondary sources using appropriate theoretical and methodological frameworks.

CO3: Synthesize literature and findings into a coherent, well-structured academic argument.

CO4: Demonstrate academic writing standards, including Chicago-style citation and ethical use of sources.

CO5: Articulate the significance, limitations, and future directions of the research.

CO6: Present and defend the thesis in an oral examination with clarity and critical reflection.

Learning Outcomes:

- Produce a complete, 10,000-word thesis that demonstrates sustained analysis of an animation-related research problem.

- Integrate literature review, methodology, and findings into a logically organised thesis structure.
- Apply appropriate theories and methods to analyse films, practices, technologies, or cultures of animation.
- Use Chicago Manual of Style consistently for citations, bibliography, and referencing.
- Reflect critically on the research process, including limitations and ethical considerations.
- Communicate and defend key arguments and findings in a viva voce examination.

Thesis Specifications:

- Length: 10,000 words (excluding abstract, appendices)
- Abstract: Maximum 300 words
- Structure: Introduction, Literature Review, Methodology, Analysis, Conclusion, Bibliography
- Citation: Chicago Manual of Style

Evaluation (GRADED: 200 marks):

Component	**Marks**
Research Design & Execution	50
Literature Review & Contextualization	40
Analysis & Original Findings	60
Writing Quality & Academic Rigor	30
Originality & Contribution	20
TOTAL	**200**

Assessment Timeline:

- Week 2: Research progress check
- Week 6: Draft sections review
- Week 10: Final submission

Faculty Support:

- Weekly or bi-weekly advisor meetings
- Seminar peer feedback sessions
- Writing workshops (Week 2, 5, 8)

Sem. IX	Individual Project - PreProduction (Semester IX)			C5AMM23101PJ
	Major (Core)	Practical	Marks: 0	**Credits 0**

Course Objective

This course initiates the capstone animation project through research-informed concept development, narrative design, visual development, and full pre-production planning. Students prepare a complete pre-production dossier that is evaluated on a PASS/FAIL basis and forms the approved blueprint for production in Semester X.

Course Structure

Phases	Deliverables	PASS Criteria
Concept & Research	Project concept document and research summary	Conceptual clarity, originality, and alignment with realistic scope.
Script & Narrative	Script or detailed narrative outline	Strong story structure, character arcs, and visual storytelling potential.
Visual Development	Character designs, environment designs, style frames, and mood boards	Cohesive visual language and production-ready references.
Storyboard & Animatic	Complete storyboard and timed animatic with temporary sound	Clear staging, pacing, and shot continuity.
Production Planning	Asset lists, production schedule, and pipeline/workflow plan	Feasible schedule, risk awareness, and coherent pipeline design.

Course Outcomes (COs)

CO1: Integrate research into creative concept.
CO2: Build narrative/script for animation.
CO3: Establish visual language/style.
CO4: Storyboard/animatic sequences.
CO5: Plan production pipeline/schedule.
CO6: Present for faculty approval.

Learning Outcomes (LOs):

- Refine a capstone project idea using research, feedback, and reference analysis.
- Develop a complete script or structured narrative breakdown suitable for animation production.
- Produce character and environment design sheets that define the project's aesthetic identity.

- Create a timed animatic with temporary sound that communicates pacing and performance.
- Compile asset lists, milestones, and risk assessments into a realistic production schedule.
- Present a professional pre-production dossier to a faculty review panel for project approval.

Requirements for PASS

Students must submit:

- Project proposal document
- Complete script
- Character design sheets
- Environment designs
- Storyboard
- Animatic with temporary sound
- Production schedule
- Asset list and pipeline plan

Students present the project before a **faculty review panel**.

Projects approved by the panel proceed to **Semester X production**.

Projects that do not meet required standards must be revised.

SEMESTER X – Animation

Capstone Production & Professional Integration

Sem. X	Individual Project - Production/Postproduction			C5AMM23101PJ
	Major (Core)	Practical	Marks: 400	**Credits 22**

Course Objective

This course completes the capstone animation project through full production, post-production, and professional presentation. Students apply the artistic, technical, and research competencies developed across the programme to deliver a polished animated work suitable for industry portfolios, festivals, or further study.

Phases	Key Tasks	Deliverables
Production	Asset creation, layout, animation, effects, lighting, and iterative review	Rendered shots and passes for all scenes.
Post-Production	Compositing, colour grading, sound design, mixing, and final edit	Final HD master of the project.
Polish & Presentation	Refinement, showreel extraction, documentation, and presentation planning	Screening copy, showreel segment, and process documentation for portfolio use.

Course Outcomes (COs)

CO1: Manage full prod pipeline autonomously.

CO2: Execute advanced animation/performance.

CO3: Integrate FX/sims/lighting.

CO4: Post-prod to broadcast quality.

CO5: Research-practice synthesis.

CO6: Professional presentation/showreel.

Learning Outcomes (LOs):

- Meet production milestones through self-directed planning and problem-solving.
- Refine animation performance and effects to a professional standard.
- Integrate rendering, compositing, sound, and editing into a coherent final piece.
- Demonstrate technical control of rendering and post-production pipelines.
- Document the creative and technical process in a form suitable for review and future reference.
- Prepare the project for public screening and portfolio/showreel integration.

Project Requirements

Students may produce one of the following:

- 2D animated short film (minimum 5 minutes)
- 3D animated short film (minimum 5 minutes)
- Experimental animation project
- Motion graphics film
- Interactive or real-time animation experience

Production Phases

Refined versions of pre-production materials (storyboards, animatic, designs) may be reassessed within this module as part of the final project dossier.

Evaluation (400 Marks)

Concept & Originality	– **60 Marks**
Technical Execution	– **100 Marks**
Artistic Quality & Direction	– **90 Marks**
Production Management & Pipeline Discipline	– **60 Marks**
Final Presentation & Screening	– **40 Marks**
Documentation & Process Record	– **50 Marks**
Total:	**400 Marks**