

Maulana Abul Kalam Azad University of Technology, WB
(Formerly known as West Bengal University of Technology)
Syllabus of B. Sc. In Animation & Film Making
Effective from academic session 2023-24

Semester- 8(HONOURS)

Paper Name: Animation short film making

Paper Code: BAFM 801

Credit Points – 2

Total Contact Hours – 30

Course Objective: The course is designed to provide complete knowledge of student short film.

Course Outcome:

SL No.	Course Outcome	Mapped Unit
1	Remembering	M1, M2
2	Understanding the course	M1, M2, M3, M4
3	Applying the general problem	M2, M3, M4
4	Analyze the problems	M2, M3, M4
5	Evaluate the problems after analyzing	M3, M4
6	Create using the evaluation process	M3, M4

Module Number	Content	Total Hours	%age of questions	Covered CO	Covered PO	Blooms Level (If applicable)	Remarks (If any)
M1	Ability to plan an animation live project	5	25	1	1,5		
M2	Ability to Analyze story/concept	10	25	1,2,3,4,	1,5		
M3	Ability to create short film from concept & storyboard	10	25	2,3,4,5,6	1,5		
M4	Ability to create Final presentation of animation live project	5	25	2,3,4,5,6	1,5		
	Total Lecture	30	100				

Maulana Abul Kalam Azad University of Technology, WB
(Formerly known as West Bengal University of Technology)
Syllabus of B. Sc. In Animation & Film Making
Effective from academic session 2023-24

BAFM 801 (2 Credits) – 30 hours

SL No.	Topic/Module	Hours
1	Module 1 - Ability to plan an animation live project: Detailed Introduction of planning animation pipeline.	5
2	Module 2 – Ability to Analyze story/concept: Detailed process of story board.	10
3	Module 3 – Ability to create short film from concept & storyboard: The basic process of making storyboard from script.	10
4	Module 4 – Ability to create Final presentation of animation live project: The basic process of making final student film from start to end.	5

Suggested Software: 1. Maya
2. Photoshop
3. Adobe Premier

Suggested Reading:

1. A Complete Guide to Animated Filmmaking--From Flip-Books to Sound Cartoons to 3- D By Kit Laybourne.

Maulana Abul Kalam Azad University of Technology, WB
(Formerly known as West Bengal University of Technology)
Syllabus of B. Sc. In Animation & Film Making
Effective from academic session 2023-24

Paper Name: Animation short film making

Paper Code: BAFM 891

Credit Points – 2

Total Contact Hours – 60

Course Objective: The course is designed to provide complete knowledge of student short film.

Module Number	Content	Total Hours	%age of questions	Covered CO	Covered PO	Blooms Level (If applicable)	Remarks (If any)
M1	Ability to plan an animation live project	15	25	1	1,5		
M2	Ability to Analyse story/concept	15	25	1,2,3,4,	1,5		
M3	Ability to create short film from concept & storyboard	15	25	2,3,4,5,6	1,5		
M4	Ability to create Final presentation of animation live project	15	25	2,3,4,5,6	1,5		
	Total Practical	60	100				

BAFM 892 (2 Credits) – 60 hours

SL No.	Topic/Module	Hours
1	Module 1 – Ability to Plan an Animation Live Project - Understanding the complete animation production pipeline and workflow. - Breaking down the project into stages: pre-production, production, and post-production. - Planning schedules, asset lists, and resource allocation for efficient project execution. - Learning documentation methods: project briefs, pipeline charts, and production trackers.	15

Maulana Abul Kalam Azad University of Technology, WB
(Formerly known as West Bengal University of Technology)
Syllabus of B. Sc. In Animation & Film Making
Effective from academic session 2023-24

2	Module 2 – Ability to Analyze Story/Concept - Identifying core themes, characters, and message of the story or concept. - Understanding narrative structure, plot points, and character motivations. - Translating ideas into visual sequences through concept exploration. - Creating clear and readable storyboards aligned with the storytelling objectives.	15
3	Module 3 – Ability to Create Short Film from Concept & Storyboard - Converting script elements into sequential visual panels for storytelling. - Developing continuity, camera angles, and scene transitions within the storyboard. - Preparing animatics to evaluate timing, pacing, and shot flow. - Refining the storyboard for clarity before moving into production stages.	15
4	Module 4 – Ability to Create Final Presentation of Animation Live Project - Assembling all production elements—from concept to final output—into a coherent film. - Applying editing, sound design, color correction, and final polishing. - Documenting the production journey for presentation and evaluation. - Creating a professional final showcase: posters, title cards, breakdowns, and screening material.	15

Suggested Software: 1. Maya
2. Photoshop
3. Adobe Premier

Suggested Reading:

1. A Complete Guide to Animated Filmmaking--From Flip-Books to Sound Cartoons to 3-D By Kit Laybourne.

Maulana Abul Kalam Azad University of Technology, WB
(Formerly known as West Bengal University of Technology)
Syllabus of B. Sc. In Animation & Film Making
Effective from academic session 2023-24

Paper Name: Creature & quadruped animation
Paper Code: BAFM 802
Credit Points – 2
Total Contact Hours – 30

Course Objective: The course is designed to provide complete process of realistic Animal and creature animation, Study video reference of different real creatures & animal for different movements.

Course Outcome:

SL No.	Course Outcome	Mapped Unit
1	Remembering	M1, M2
2	Understanding the course	M1, M2, M3
3	Applying the general problem	M2, M3
4	Analyze the problems	M2, M3,
5	Evaluate the problems after analyzing	M3,
6	Create using the evaluation process	M3

Module Number	Content	Total Hours	%age of questions	Covered CO	Covered PO	Blooms Level (If applicable)	Remarks (If any)
M1	Ability to study different animal action.	10	25	1	1,5		
M2	Ability to design quadruped realistic animal motion.	10	25	1,2,3,4,	1,5		
M3	Ability to design 3D animal locomotion.	10	50	2,3,4,5,6	1,5		
	Total Lecture	30	100				

BAFM 802 (2 Credits) – 30 hours

SL No.	Topic/Module	Hours
--------	--------------	-------

Maulana Abul Kalam Azad University of Technology, WB
(Formerly known as West Bengal University of Technology)
Syllabus of B. Sc. In Animation & Film Making
Effective from academic session 2023-24

1	Module 1 - Ability to study different animal action: Detailed process of reference study of realistic animal locomotion Like tiger, horse run walk and jump action.	10
2	Module 2 – Ability to design quadruped realistic animal motion: Method and process of blocking of animal pose in 3D for realistic animation.	10
3	Module 3 – Ability to design 3D animal locomotion: The basic process of creating animal / quadruped walk, run & jump animation.	10

Suggested Software: 1. Maya

Suggested Reading:

1.3d Creature Workshop by Bill Fleming.

Maulana Abul Kalam Azad University of Technology, WB
(Formerly known as West Bengal University of Technology)
Syllabus of B. Sc. In Animation & Film Making
Effective from academic session 2023-24

Paper Name: Creature & quadruped animation
Paper Code: BAFM 892
Credit Points – 2
Total Contact Hours – 60

Course Objective: The course is designed to provide complete process of realistic Animal and creature animation, Study video reference of different real creatures & animal for different movements.

Module Number	Content	Total Hours	%age of questions	Covered CO	Covered PO	Blooms Level (If applicable)	Remarks (If any)
M1	Ability to study different animal action.	20	25	1	1,5		
M2	Ability to design quadruped realistic animal motion.	20	25	1,2,3,4,	1,5		
M3	Ability to design 3D animal locomotion.	20	50	2,3,4,5,6	1,5		
	Total Practical	60	100				

BAFM 892 (2 Credits) – 60 hours

SL No.	Topic/Module	Hours
1	Module 1 – Ability to Study Different Animal Action - Understanding biomechanics and anatomy of quadruped animals (e.g., tiger, horse). - Analysing real-life reference videos to observe weight, balance, and timing. - Breaking down locomotion cycles—walk, run, and jump—into key phases. - Identifying characteristic movement patterns unique to each animal species.	20

Maulana Abul Kalam Azad University of Technology, WB
(Formerly known as West Bengal University of Technology)
Syllabus of B. Sc. In Animation & Film Making
Effective from academic session 2023-24

2	Module 2 – Ability to Design Quadruped Realistic Animal Motion • Learning the method of blocking primary poses for believable quadruped movement. • Establishing key poses: contact, down, passing, up, and anticipation poses. • Maintaining accurate centre of gravity, weight shift, and leg coordination in 3D. • Refining pose-to-pose blocking for anatomical accuracy and natural movement flow.	20
3	Module 3 – Ability to Design 3D Animal Locomotion • Creating walk, run, and jump cycles step-by-step for quadruped characters. • Working with timing, spacing, and overlap to enhance realism. • Adding secondary motion—tail, ears, head, spine—for natural behaviour. • Polishing the animation using graph editor, arcs, and smooth transitions.	20

Suggested Software: 1. Maya

Suggested Reading:

1.3d Creature Workshop by Bill Fleming.

Maulana Abul Kalam Azad University of Technology, WB
(Formerly known as West Bengal University of Technology)
Syllabus of B. Sc. In Animation & Film Making
Effective from academic session 2023-24

Paper Name: Advance CGI Development
Paper Code: BAFM 803
Credit Points – 2
Total Contact Hours – 30

Course Objective: The course is designed to provide complete process to create realistic CG elements and then create realistic textures and realistic light look development output.

Course Outcome:

SL No.	Course Outcome	Mapped Unit
1	Remembering	M1, M2
2	Understanding the course	M1, M2, M3
3	Applying the general problem	M2, M3
4	Analyze the problems	M2, M3,
5	Evaluate the problems after analyzing	M3,
6	Create using the evaluation process	M3

Module Number	Content	Total Hours	%age of questions	Covered CO	Covered PO	Blooms Level (If applicable)	Remarks (If any)
M1	Ability to design Advanced model techniques.	10	25	1	1,5		
M2	Ability to create realistic texture and shader maps	10	25	1,2,3,4,	1,5		
M3	Ability to create realistic look development, render & composition	10	50	2,3,4,5,6	1,5		
	Total Lecture	30	100				

BAFM 803 (2 Credits) – 30 hours

SL No.	Topic/Module	Hours
1	Module 1 - Ability to 3D design Advanced model techniques: - Ability to create complex and detailed 3D models using advanced modeling techniques. - Proficient in managing clean topology, proper edge flow, and optimized geometry.	10

Maulana Abul Kalam Azad University of Technology, WB
(Formerly known as West Bengal University of Technology)
Syllabus of B. Sc. In Animation & Film Making
Effective from academic session 2023-24

	• Skilled in subdivision, hard-surface, and procedural modeling workflows.	
2	Module 2 – Ability to create realistic texture and shader maps : • Ability to create realistic texture maps such as diffuse/albedo, roughness, normal, and specular maps. • Skilled in developing accurate shader networks to achieve real-world material properties. • Proficient in UV mapping and texture placement to avoid distortion and seams. •	10
3	Module 3 – Ability to create realistic look development, render & composition: • Ability to develop realistic look development by accurately defining materials, textures, and lighting. • Proficient in using render engines to produce high-quality, photorealistic outputs. • Ability to perform composition and compositing to enhance final visuals with color correction and effects.	10

Suggested Software: 1. Maya 2. Substance Painter 3. After effects

Suggested Reading: 1. Advanced Maya Texturing and Lighting by Lee Lanier.

Maulana Abul Kalam Azad University of Technology, WB
(Formerly known as West Bengal University of Technology)
Syllabus of B. Sc. In Animation & Film Making
Effective from academic session 2023-24

Paper Name: Advance CGI Development
Paper Code: BAFM 893
Credit Points – 2
Total Contact Hours – 60

Course Objective: The course is designed to provide complete process to create realistic CG elements and then create realistic textures and realistic light look development output.

Module Number	Content	Total Hours	%age of questions	Covered CO	Covered PO	Blooms Level (If applicable)	Remarks (If any)
M1	Ability to design Advanced model techniques.	20	25	1	1,5		
M2	Ability to create realistic texture and shader maps.	20	25	1,2,3,4,	1,5		
M3	Ability to create realistic look development.	20	50	2,3,4,5,6	1,5		
	Total Practical	60	100				

BAFM 893 (2 Credits) – 60 hours

SL No.	Topic/Module	Hours
1	Module 1 - Ability to 3D design Advanced model techniques: - Ability to create complex and detailed 3D models using advanced modeling techniques. - Proficient in managing clean topology, proper edge flow, and optimized geometry. - Skilled in subdivision, hard-surface, and procedural modeling workflows. - Ensures correct scale, proportions, and industry-standard modeling practices. - Prepares models suitable for animation, rendering, and real-time applications.	20

Maulana Abul Kalam Azad University of Technology, WB
(Formerly known as West Bengal University of Technology)
Syllabus of B. Sc. In Animation & Film Making
Effective from academic session 2023-24

2	Module 2 – Ability to create realistic texture and shader maps: • Ability to create realistic texture maps such as diffuse/albedo, roughness, normal, and specular maps. • Skilled in developing accurate shader networks to achieve real-world material properties. • Proficient in UV mapping and texture placement to avoid distortion and seams. • Uses high-resolution textures while maintaining optimization for performance. • Ensures textures and shaders are production-ready for rendering and real-time pipelines.	20
3	Module 3 – Ability to create realistic look development, render & composition: • Ability to develop realistic look development by accurately defining materials, textures, and lighting. • Skilled in setting up professional lighting and camera angles to enhance visual realism. • Proficient in using render engines to produce high-quality, photorealistic outputs. • Knowledge of render optimization techniques to balance quality and performance. • Ability to perform composition and compositing to enhance final visuals with color correction and effects.	20

Suggested Software: 1 Maya 2. Substance Painter 3. After effects

Suggested Reading:

1. Advanced Maya Texturing and Lighting by Lee Lanier.

Maulana Abul Kalam Azad University of Technology, WB
(Formerly known as West Bengal University of Technology)
Syllabus of B. Sc. In Animation & Film Making
Effective from academic session 2023-24

Paper Name: Research Dissertation

Paper Code: BAFM 881

Credit Points – 10

Total Contact Hours – 300

Refer to Appendix – 2

Course Objective: A dissertation is a **long-form piece of academic writing based on original research conducted by the student**. Hence, this course aims to provide students with the opportunity to apply the knowledge and skills acquired in their courses to a specific problem. This allows students to extend their academic experience into areas of interest and work with new ideas. This also addresses the issues inherent in selecting a research problem and discusses the techniques and tools to be employed in completing a research project. This will also enable the students to prepare report writing and framing Research proposals.

This will give students knowledge, general competence, and analytical skills in Research Methodology. They can build their foundation for research in Business administration. It provides hands-on experience in carrying out research work on interdisciplinary topics, including management, economics, etc., and the process for publishing original work.

SL No.	Course Outcome	Mapped modules
1	Remembering	M1, M2
2	Understanding the course	M1, M2, M3, M4
3	Applying the general problem	M3, M4
4	Analyze the problems	M3, M4
5	Evaluate the problems after analyzing	M3, M4
6	Create using the evaluation process	M3, M4

Module Number	Content	Total Hours	%age of questions	Covered CO	Covered PO	Blooms Level (If applicable)	Remarks (If any)
M1	Introduction to Research	75	25	1	1		
M2	Research Methods & Design	75	25	2	1		
M3	Tools & Techniques of Data Collection Analysis and Interpretations	75	25	3	1		
M4	Reporting and Thesis Writing	75	25	4	1		

Maulana Abul Kalam Azad University of Technology, WB
(Formerly known as West Bengal University of Technology)
Syllabus of B. Sc. In Animation & Film Making
Effective from academic session 2023-24

		300	100				
--	--	------------	------------	--	--	--	--

Course outcomes:

At the end of the course, students will be able to

- Equip themselves with tools for data collection and analysis
- Understand research in-depth and acquire knowledge to undertake research project independently.
- Equip themselves with ethical issues related to Research and Publication.
- Build a strong foundation for future research work systematically by applying notions of

SL No.	Topic/Module	Hours
1	Module 1- Introduction to Research: • Fundamental of research, Scope of Research, Types of Research, Process of Research, Sources of research Problem, Qualities of good research problem, Identification of good problem, Scientific research characteristics and steps of scientific research, Scientific research problems.	75
2	Module 2- Research Methods & Design: • Basic Principles; need for research Design; features of good design; essential concepts relating to research design. Traditional Methods like Historical, Institutional, and Legal. Modern Methods like surveys of Literature, Sampling methods, Questionnaires, Schedules, Interview methods and Focus Group discussions. Observation Methods, Case Study Methods, Content Analysis, Statistical Methods, Experimental Methods, Brainstorming Techniques, etc.	75
3	Module 3- Tools & Techniques of Data Collection Analysis and Interpretations: Meaning of Population and Sample; Sampling Methods- Random, Stratified, Purposive. Tool of Data Collection, Primary, Secondary and Tertiary Data, Schedule, Observation. Type of Data, Primary, Secondary and Tertiary Data, Tabulation of data, Data organization in SPSS and Excel, Graphical representation of data. Analysis of Data, Measure of Central tendency, Standard Deviation & Standard error, Measure of variability, Correlation and its computation; ANOVA. Discussion and Interpretation of Results, Testing of Hypotheses, Logical and Statistical Techniques like chi Square test and Student t-test.	75
4	Module 4- Reporting and Thesis Writing: Type of report Technical Reports and thesis; Significance; Different steps in the preparation; Layout, structure and language of typical reports; Illustrations and tables; Bibliography, referencing and footnotes. Planning -Preparation - practice - Making Presentation; Use of visual aids; PowerPoint for effective Communication; Criteria for evaluating the research report.	75

Research Methodology.

- Gain ability to apply knowledge of Business Administration to research in real-world issues
